



**BROOKHAVEN NATIONAL LABORATORY
2018 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS**

Prepared by
Brookhaven National Laboratory
Environmental Protection Division
Upton, New York

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Executive Summary

This report documents the Operations and Maintenance activities undertaken during calendar year 2018 for the Current Landfill (Area of Concern [AOC] 3) and the Former Landfill Areas. The Former Landfill Areas include the Former Landfill (AOC 2A), Interim Landfill (AOC 2D), and Slit Trench (AOC 2E). Brookhaven National Laboratory is responsible for performing this work to comply with the post-closure O&M requirements specified in 6 New York State Code of Rules and Regulations (NYCRR) Part 360, Solid Waste Management Facilities, updated November 4, 2017. The landfill caps are functioning as designed and the 2018 monitoring results are consistent with results from previous years.

The groundwater quality at both the Current and Former Landfill Areas remains relatively unchanged from 2017. Volatile organic compounds (VOCs) and metals continue to be detected downgradient of the Current Landfill. The most prevalent VOCs detected above standards are chloroethane, 1,1-dichloroethane and benzene, at maximum concentrations of 47 micrograms per liter ($\mu\text{g}/\text{L}$), 10 $\mu\text{g}/\text{L}$ and 1.7 $\mu\text{g}/\text{L}$, respectively. As with previous years, aluminum, arsenic, iron, manganese, and sodium were detected downgradient from the Current Landfill at concentrations above applicable standards. Concentrations of these metals were similar to those detected historically. Maximum concentrations of aluminum, arsenic, iron, manganese, and sodium in downgradient wells were 1,160 $\mu\text{g}/\text{L}$, 12 $\mu\text{g}/\text{L}$, 110,000 $\mu\text{g}/\text{L}$, 561 $\mu\text{g}/\text{L}$, and 32,100 $\mu\text{g}/\text{L}$, respectively. These results are an indicator of continued low-level leachate generation at this landfill. There were no detections of radionuclides above standards at the Current Landfill during 2018.

Concentrations of parameters detected in wells downgradient of the Former Landfill Area do not indicate the presence of leachate. VOCs were not detected above standards in Former Landfill Area monitoring wells in 2018. Strontium-90 concentrations in well 097-64 had shown a low but increasing trend in 2014 and 2016 but have since dropped to non-detectable levels in 2018. Strontium-90 has not been detected above the standard of 8 pCi/L in Former Landfill monitoring wells since 2001. Water chemistry and metals concentrations were equivalent to historic background levels. There were no detections of pesticides or polychlorinated biphenyls (PCBs) during 2018 at the Former Landfill.

The groundwater monitoring well networks for the Current and Former Landfill Areas are adequate at this time. VOCs will continue to be monitored quarterly in Current Landfill wells 088-109 and 098-99 and strontium-90 will continue to be monitored annually in the five Former Landfill monitoring wells.

As part of BNL's Per- and Polyfluoroalkyl Substances (PFAS) characterization effort, BNL collected samples of the groundwater in 2018 and 2019 for PFAS analyses. Five of the monitoring wells were sampled in January 2019 and are located downgradient of the Current and Former Landfill Areas. The combined Perfluorooctanesulfonate (PFOS) and Perfluorooctanoic acid (PFOA) results for the five wells are below EPA's lifetime health advisory level of 70 ng/L. The full results of the characterization will be reported in the *2018 Annual Groundwater Status Report*.

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ACRONYMS

AOC	Area of concern	O&M	Operations and Maintenance
BNL	Brookhaven National Laboratory	OU	Operable Unit
BSA	Brookhaven Science Associates	PCBs	Polychlorinated biphenyls
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	pCi/L	Picocuries per liter
CY	Calendar year	PFAS	Per- and Polyfluoroalkyl Substances
DCS	Derived concentration technical standard	PFOA	Perfluorooctanoic acid
DOE	U.S. Department of Energy	PFOS	Perfluorooctanesulfonate
DQOs	Data quality objectives	QA/QC	Quality Assurance/Quality Control
EIMS	Environmental Info. Mgmt. System	QAPP	Quality Assurance Project Plan
HWMF	Former Hazardous Waste Management Facility	SCDHS	Suffolk County Department of Health Services
LEL	Lower explosive limit	Sr-90	Strontium 90
MDA	Minimum Detectable Activity	TDS	Total dissolved solids
µg/L	Micrograms per liter	TKN	Total Kjeldahl nitrogen
mg/L	Milligrams per liter	TSS	Total suspended solids
mrem	Millirem	TVOCs	Total volatile organic compounds
MS/MSDs	Matrix spike/matrix spike duplicates	UEL	Upper explosive limit
NPL	National Priorities List	USEPA	United States Environmental Protection Agency
NYSDEC	NY State Dept. of Environmental Conservation	VOCs	Volatile organic compounds
NYSDOH	NY State Dept. of Health		

1.0 INTRODUCTION

This report documents the Operation and Maintenance (O&M) activities and monitoring data collected during calendar year (CY) 2018 for the Current Landfill (Area of Concern [AOC] 3) and the Former Landfill Areas (Former Landfill AOC 2A, Interim Landfill AOC 2D, and Slit Trench AOC 2E). Brookhaven National Laboratory (BNL) is responsible for performing this work to comply with the post-closure O&M requirements specified in the 6 New York State Code of Rules and Regulations (6NYCRR) Part 360, Solid Waste Management Facilities, revised November 4, 2017. The details of the O&M programs are described in the Final Operations and Maintenance Manuals for the Current Landfill (CDM Federal, 1996a) and the Former Landfill Areas (CDM Federal, 1996b).

The following are the primary objectives of the O&M program:

- Monitor the effectiveness of the impermeable caps in protecting groundwater quality;
- Monitor the potential generation and migration of soil-gas; and
- Maintain and monitor the various components of the closure system (landfill caps, drainage structure, and environmental monitoring systems).

This is the twenty-third year of O&M for the Current Landfill, the twenty-second year for the Former Landfill and Slit Trench, and the twenty-first year for the Interim Landfill.

1.1 Site Description and Project Background

BNL is a 5,265-acre site located in central eastern Long Island, New York. The facility is a federally owned and funded international research and learning center managed by Brookhaven Science Associates (BSA) under contract with the United States Department of Energy (DOE). On December 21, 1989, the site was placed on the United States Environmental Protection Agency's (USEPA's) National Priorities List (NPL), a ranking of hazardous waste sites compiled by the federal government as part of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Placing BNL on the NPL resulted in the establishment of a remediation task list for various locations around the facility. The site subsequently was divided into seven separate remediation work areas known as Operable Units (OU). The Current Landfill and Former Landfill Areas are located in OU I, near the south-central portion of the BNL site (see Figure 1).

Current Landfill. The Current Landfill consists of one unlined waste-cell that operated from the late 1960s until 1990 for disposing of waste generated at the Laboratory. An impermeable cap covering the cell was completed in November 1995. Additional information about the cap's construction can be obtained from the *Construction Certification Report for the Current Landfill* (CDM Federal, 1996b). Following the installation of the cap, the post-closure groundwater monitoring program was implemented in January 1996, in accordance with 6 NYCRR Part 360 Section 2.15, Solid Waste Management Facilities (effective November 4, 2017).

Groundwater quality near the Current Landfill is monitored under the O&M program for a wide variety of volatile organic compounds (VOCs), metals, radiological, and water chemistry (landfill leachate) parameters. Monitoring in this vicinity was expanded in 1999 to include a wetland area adjacent to the landfill's eastern boundary. This area, known as the Wooded Wetland area, is a two-acre wetland located between the Former Hazardous Waste Management Facility (HWMF) and the Current Landfill. The wetland receives surface runoff from the Current Landfill and usually is flooded during the spring/early summer and dry in late summer/fall. Monitoring of the Wooded Wetland area was incorporated into the Current Landfill Monitoring Program and consisted of sampling and analyzing surface water and sediment annually through 2008, and then every other year to evaluate the potential for leachate migrating into this area, as originally performed under the *OUI Ecological Risk Assessment* (CDM Federal, 1999). In response to information provided in the *2015 Environmental Monitoring Report, Current and Former Landfill Areas* and additional tiger salamander information provided upon the request of the NYSDEC, it was agreed that further monitoring of the Wooded Wetlands be limited to visual tiger salamander assessments. No further sediment and surface water samples will be collected, and care will be taken by BNL to not disturb the buildup of detritus material in the Wooded Wetland.

As required under 6 NYCRR Part 360, groundwater quality must be monitored for a minimum of five years, after which the permittee may request modification of the sampling and analysis requirements. In October 2001, BNL submitted the *Five-Year Evaluation Report for the Current Landfill* (BNL, 2001). This report assessed groundwater trends over the five years after capping, and proposed changes to the sampling program. These changes were implemented in 2002. In 2006 and 2011, BNL issued additional five-year review reports which discussed all remediation areas at the

site. Review of Current Landfill O&M data was included in these reports.

Former Landfill Area. The Former Landfill Area encompasses three closely located landfill units; the Former Landfill, the Slit Trench, and the Interim Landfill. The Former Landfill is an unlined waste-disposal area originally used by the United States Army starting in 1918. Waste disposal operations ceased in 1966, and the landfill was covered with soil. The Interim Landfill also is unlined and was reportedly used for approximately one year between the time the Former Landfill was closed and the Current Landfill was opened. The Slit Trench is unlined as well and is believed to have operated between 1960 and 1967 for disposal of construction and demolition debris (CDM Federal, 1996).

The Former Landfill and Slit Trench were capped in November 1996 and the Interim Landfill was capped in October 1997. Additional information about the construction of the caps can be found in the *Construction Certification Report for the Former Landfill* (Roy F. Weston, 1997) and *Construction Certification Report for the Interim Landfill Capping* (PW Grosser, 1997). BNL started O&M activities in December 1996 at the Former Landfill and Slit Trench, and in November 1997 at the Interim Landfill. Under this O&M program, groundwater quality in downgradient wells near the Former Landfill is monitored for VOCs, metals, radionuclides, and landfill-leachate parameters.

In 2002, BNL submitted a *Five-Year Evaluation Report for the Former Landfill* (P.W. Grosser, 2002), which assessed trends in groundwater quality over the five-year period following capping and proposed changes to the sampling program. These changes were implemented in 2003. In 2006 and 2011, BNL issued the additional five-year review reports which discussed all remediation areas at the site. Review of Former Landfill O&M data was included in these reports.

1.2 Overview of the Monitoring Program

Groundwater Monitoring

Data quality objectives (DQOs) for each of BNL's groundwater monitoring programs are presented in the *BNL Environmental Monitoring Plan* (BNL, 2018). The design of the data collection network was optimized as part of the process. Such optimization continues annually as part of the O&M program and is based on the interpretation of new data as well as historical trends. The primary DQO

decision identified for the landfill monitoring programs is “Are the controls effectively improving groundwater quality below and downgradient of the landfill?”

Groundwater samples are collected from monitoring wells positioned upgradient and downgradient of each landfill area. Analytical data are reviewed, and determinations are made regarding the effectiveness of landfill controls.

The additional monitoring programs for the landfill areas consist of:

Soil-gas Monitoring. Measurements of methane, Lower Explosive Limit (LEL), and hydrogen sulfide are taken quarterly from monitoring locations surrounding the Current Landfill and annually from monitoring locations surrounding the Former Landfill to evaluate the movement of soil-gas from the landfills.

Routine Visual Inspection, Maintenance, and Repair. Monthly inspections are performed to monitor the structural and/or operational status of the landfill caps, drainage structures, and environmental monitoring systems. Semi-annual inspections of the landfills are also performed to ensure that institutional controls continue to be maintained.

Leachate Discharge. Visual inspections of the landfills are performed monthly to monitor for signs of leachate discharge. If observed, samples of the leachate are collected and analyzed. Leachate was not observed during 2018.

These activities are discussed in greater detail in Sections 2 through 4 of this report.

2.0 GROUNDWATER MONITORING

2.1 Monitoring Well Networks

2.1.1 Current Landfill

Since January 1996, groundwater quality at the Current Landfill has been monitored using eleven downgradient wells and one background monitoring well. Well 098-99 (OUI-MW01-2017) was added during 2017 to monitor downgradient VOC concentrations detected in monitoring well 088-109. Figure 2 depicts the location of the monitoring wells. Figure 3 shows the water table contours for this area in January/February 2019. The depths of the screen intervals for the Current Landfill wells are listed below.

Well ID	Screen Interval (ft BLS)	Screen Zone
087-09*	24–34	Shallow Glacial
087-11	11–21	Shallow Glacial
087-23	25–40	Shallow Glacial
087-24	70–80	Intermediate Glacial
087-26	70–80	Intermediate Glacial
087-27	5–20	Shallow Glacial
088-109	6–21	Shallow Glacial
088-110	10–25	Shallow Glacial
088-21	5–20	Shallow Glacial
088-22	70–80	Intermediate Glacial
088-23	120–130	Deep Glacial
098-99 (OUI-MW01-2017)	39.5–49.5	Intermediate Glacial

BLS = Below Land Surface

*Background well

Screen zones were determined based on the following characteristics:

- Shallow Glacial Zone: typical water table within 10 ft of the screen zone.
- Intermediate Glacial Zone: typical water table between 10 ft and 100 ft above the screen zone.
- Deep Glacial Zone: typical water table >100 ft above the screen zone.

2.1.2 Former Landfill

Since January 1997, groundwater quality at the Former Landfill area has been monitored using 14 shallow monitoring wells (three background and 11 downgradient). The locations of the 14 monitoring wells are presented in Figure 4. The direction of groundwater flow in the OU I area of the site is generally to the south-southeast. Figure 3 shows the January/February 2019 water table contours for the area. The screen zones for Former Landfill Area wells are summarized below.

Well ID	Screen Interval (ft BLS)	Screen Zone
086-42*	65-75	Intermediate Glacial
086-72*	41.5-56.5	Shallow Glacial
087-22*	43-53	Shallow Glacial
097-17	29-39	Shallow Glacial
097-64	29-44	Shallow Glacial
097-277	40-55	Shallow Glacial
106-02	55-65	Intermediate Glacial
106-30	29-44	Shallow Glacial
106-20	85-95	Intermediate Glacial
106-21	55-65	Shallow Glacial
106-43	43-53	Shallow Glacial
106-44	44-54	Shallow Glacial
106-45	44-55	Shallow Glacial
106-64	30-40	Shallow Glacial

BLS = Below Land Surface

*Background well

Screen zones were determined based on the following characteristics:

- Shallow Glacial Zone: typical water table within 10 ft of the screen zone.
- Intermediate Glacial Zone: typical water table between 10 ft and 100 ft above the screen zone.

2.1.3 Sampling Frequency and Analytical Parameters

The majority of monitoring wells for the Current Landfill are sampled semiannually for VOCs, metals, and water chemistry parameters. The wells are usually sampled in June and November each year. However, due to scheduling delays the second round of samples were not collected until January 2019. A quarterly VOC sampling frequency is maintained for wells 088-109 and 098-99, due to the continued presence of elevated levels of chloroethane. January 2019 samples collected from wells 087-23, 087-27, 088-21, and 088-109 were analyzed for radionuclides.

Former Landfill Area wells are scheduled to be sampled every two years. However, based on the recommendation in the *2016 Environmental Monitoring Report, Current and Former Landfill Areas*, the Sr-90 sampling frequency was increased for wells 097-64, 106-02, 106-43, 106-44, and 106-45 from every two years to annually. In 2018, eight wells were sampled once for VOCs, pesticides/PCBs, general chemistry, metals and radionuclides. The remaining six wells were sampled once for Sr-90. See Table 1 for a summary of analyses performed, by well and sampling round. The wells are usually sampled in December, however due to scheduling delays the samples were not collected until January 2019.

2.1.4 Quality Assurance / Quality Control

The groundwater samples were collected and analyzed in accordance with the quality assurance/quality control (QA/QC) requirements described in the BNL SOPs for groundwater monitoring. The analytical results for groundwater samples collected during 2018 satisfied the data-quality objectives. BNL maintains a master calibration/maintenance log is maintained for each field-measuring device (e.g., pH, conductivity, turbidity meters). The sample coordinator provided a calibration/maintenance log for equipment supplied to the contractor's sampling teams.

The analytical results of samples collected for the Current and Former Landfill Area projects underwent data verification, using BNL standard operating procedures EM-SOP-203, Chemical Data Verification, and EM-SOP-204, Radiochemical Data Verification. These procedures are designed to verify the accuracy and/or completeness of analytical data. The data verification process is implemented to detect the most common analytical problems that affect the quality of the results. To accomplish this task, QA/QC items such as the following were checked: holding times, matrix spikes, laboratory and field blanks, and field logs. If items are found that can affect the use and interpretation of the data, they are either corrected, as in the case of unreadable information on the field logs, or the data are “qualified,” as in the case of contamination of the blanks or violations of the holding time.

Guidance on the collection of QA/QC samples is contained in the QAPP, and in BNL procedure EM-SOP-200, Collection and Frequency of Field Quality Control Samples. The QA/QC samples collected included trip blanks, field blanks, matrix spike/matrix spike duplicate (MS/MSDs), and blind duplicates.

Trip blanks were analyzed for aqueous VOCs only. One trip blank was shipped to the analytical laboratory with each set of samples submitted for VOC analyses. The results of blank samples collected did not indicate any significant impact on the quality of the results. One duplicate sample was collected from the Current Landfill during the second and fourth quarters. No errors were detected in the duplicate analyses. The results are indicative of consistency with the contract analytical laboratories and the sampling methods, resulting in valid, reproducible data. Matrix spike/matrix spike duplicate (MS/MSD) samples were collected at the same frequency as the duplicates. Two samples for nitrate and nitrite were analyzed outside the technical holding time by a few hours. The data has been qualified as an estimate based on the holding time exceedance. No significant matrix effects were observed. Sample results with concentrations of these compounds within the appropriate range of the associated blank value were declared non-detect. The amount of qualified data was within acceptable limits and did not adversely impact the review of the groundwater quality.

2.2 Landfill Groundwater Monitoring Results

This section summarizes the results for VOCs, metals, water-chemistry parameters, and radionuclides detected for both the Current Landfill and Former Landfill Area and the pesticide/PCB results from the Former Landfill Area in 2018. The historical trends in concentrations of key contaminants are assessed and shown graphically in Figures 5 through 12. Summary tables of all 2018 landfill groundwater data are presented in Tables 2 through 11. Detections that exceed groundwater standards are in bold text. The tables include groundwater standards, laboratory results, minimum detection limits, and laboratory data qualifiers.

The groundwater standards used for evaluating non-radiological groundwater data are those contained in the NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values (June 1998, with addendums April 2000 and June 2004) (NYSDEC 1998, 2000, and 2004) and 6NYCRR Part 703.5. Groundwater standards for radiological isotopes were supplemented with New York State Department of Health's (NYSDOH's) strontium-90 and tritium standards for drinking water. There were no groundwater standards for the gamma constituents; therefore, a Groundwater Screening Level was used. This value is based on a dose equivalent of 4 millirem (mrem)/year and was calculated as 4% of the DOE Derived

Concentration Technical Standards (DCS) (DOE-STD-1196-2011) for the isotope of concern. These values are listed under the “groundwater standards” column in the summary tables and annotated where appropriate. Laboratory results that exceed the lower of the groundwater standards or the Cleanup Goals listed in the Record of Decision (ROD) are highlighted in the data summary tables to facilitate review of the information.

The laboratory data qualifiers included in the tables vary for the different analyses. Explanations for the data qualifiers are included in the notes in each table. Complete 2018 laboratory data reports, chain of custody forms, and well-sampling logs for both landfills are archived and available upon request. In addition, analytical results are stored in the BNL Environmental Information Management System (EIMS) database.

2.2.1 Current Landfill

2.2.1.1 Volatile Organic Compounds (VOCs)

Benzene and chloroethane have historically been the primary groundwater contaminants detected downgradient of the Current Landfill. Benzene was detected above its standard of 1 microgram per liter ($\mu\text{g}/\text{L}$) in monitoring well 087-11. 1,1-Dichloroethane was detected above the groundwater standards of 5 $\mu\text{g}/\text{L}$ in two downgradient monitoring wells, 088-109 and 098-99 during 2018 (Table 2). Chloroethane was detected in wells 088-109 and 088-110 above the groundwater standard of 5 $\mu\text{g}/\text{L}$. No other VOCs were detected above groundwater standards during 2018.

Benzene exceeded the 1 $\mu\text{g}/\text{L}$ standard in well 087-11 during the June 2018 and January 2019 sampling events, with a maximum concentration of 1.7 $\mu\text{g}/\text{L}$. Chloroethane exceeded the 5 $\mu\text{g}/\text{L}$ standard in well 088-109 during all four sampling events in 2018. The maximum chloroethane concentration of 47 $\mu\text{g}/\text{L}$ was detected in well 088-109 during the August sampling event, which is well below the historic high of 560 $\mu\text{g}/\text{L}$ detected in this well in 1998. 1,1-Dichloroethane was detected above the standard of 5 $\mu\text{g}/\text{L}$ in well 088-109 during all four sampling events and in well 098-99 during the August sampling event. The maximum concentration of 1,1-dichloroethane was 10 $\mu\text{g}/\text{L}$ in August in well 088-109. There is no apparent seasonal or water table elevation correlation with VOC concentrations in this well based on an assessment of historical data.

Figure 5 plots the concentration trends of total VOCs (TVOC), benzene, and chloroethane. As shown, VOCs remained relatively stable at low concentrations except for chloroethane in well 088-109. Overall, the trend plots also show a distinct decrease in VOC concentrations from the high concentrations seen prior to the installation of the cap. This reflects the positive effects of the capping on the groundwater quality downgradient of the landfill.

2.2.1.2 Water Chemistry Parameters

Groundwater samples near the Current Landfill were analyzed semi-annually for ammonia, total Kjeldahl nitrogen (TKN), cyanide, sulfate, nitrite, nitrate, total nitrogen, chloride, alkalinity, total dissolved solids (TDS or residue, nonfilterable), and total suspended solids (TSS or residue, filterable) during 2018. The results are provided in Table 3. Elevated levels of these parameters can be indicative of the presence of landfill leachate. During 2018, ammonia was the only water chemistry parameter detected above standards.

Ammonia was detected above the standard of 2 milligrams per liter (mg/L), in downgradient well 087-11 at a concentration of 5.9 mg/L, as shown in Table 3. The levels of ammonia detected in downgradient wells are consistent with historic data.

Chloride was not detected above the standard of 250 mg/L in any wells in 2018. Downgradient well 087-24 had the highest concentration of chloride at 62 mg/L. Figure 6 plots the trends for alkalinity and chloride. The trends for downgradient wells show the low levels of chloride concentrations near the Current Landfill.

Alkalinity, in the form of bicarbonate, is the concentration of anions available to neutralize acid, and is often used as an indicator of leachate contamination. The alkalinity in background well 087-09 ranged from 34 mg/L to 71 mg/L. The highest alkalinity concentration during 2018 was detected in downgradient, shallow Upper Glacial aquifer well 087-11, at 239 mg/L. There is no groundwater standard for alkalinity. The historical concentration trends plotted in Figure 6 show overall stable to decreasing levels of alkalinity.

During 2018, all sulfate concentrations remained below the groundwater standard of 250 mg/L. The highest sulfate value reported for 2018 was detected in the June sample from monitoring well 088-

110 at a concentration of 19.7 mg/L. This is consistent with historic background levels at the Current Landfill.

TDS and TSS results were similar to those from previous years. TDS and TSS concentrations in background well 087-09 ranged from 103 mg/L to 109 mg/L, and 0.7 to 6 mg/L, respectively. The maximum concentrations observed in downgradient wells were 331 mg/L and 38 mg/L of TDS and TSS, respectively.

No water chemistry parameters have exceeded groundwater standards in downgradient wells 087-24, 088-22, and 088-23, since 1998. These wells are all screened in the mid to deep-Upper Glacial aquifer to monitor the vertical extent of contamination from the Current Landfill. A comparison of downgradient and background wells shows that leachate continues to be generated from the Current Landfill, albeit at low concentrations. Decreasing to stable trends in concentrations of contaminants indicate that the capping continues to effectively reduce the generation and migration of leachate.

2.2.1.3 *Metals*

Historically, iron is detected consistently above groundwater standards in the majority of wells surrounding the landfill. Precipitated iron from the BNL Water Treatment Plant was disposed of at the Current Landfill during past operations. Concentrations in upgradient well 087-09 are still lower than in several downgradient wells, suggesting continued leachate migration from the landfill into the groundwater.

During 2018, iron, sodium and manganese in the background well, and aluminum, arsenic, iron, manganese, and sodium in several downgradient wells were detected above their respective groundwater standards (Table 4).

Aluminum was reported above the standard of 200 µg/L in well 087-11 at a maximum concentration of 1,160 µg/L. This result is consistent with sporadic historic results reported for several Current Landfill wells, including background well 087-09.

Arsenic was reported above the standard of 10 µg/L in wells 087-23 and 088-110 at a maximum concentration of 12 µg/L. Arsenic detections have historically been observed at similar levels in Current Landfill wells.

Iron was reported above the standard of 300 µg/L in all wells except 087-24 and 088-21. The background concentrations ranged up to 1,430 µg/L while downgradient concentrations ranged up to 110,000 µg/L in well 087-11. This well has shown increasing iron concentrations since late 2017. However, this is not inconsistent with the historical increases and decreases evidenced in several of the wells, including the background well. Iron trend graphs are plotted on Figure 7.

Manganese ranged from 4 µg/L to 561 µg/L in background well 087-09, and up to 4,490 µg/L (well 087-23) in the downgradient wells.

Background and downgradient sodium levels ranged up to 32,100 µg/L. Chromium was not detected above the standard of 50 µg/L in any monitoring wells in 2017 and 2018. The maximum chromium concentration was 17 µg/L in background well 087-09.

2.2.1.4 Radionuclides

No radionuclides were detected above groundwater standards for strontium-90 and tritium during the 2018 sample round collected in January 2019 (Table 5). Strontium-90 and tritium were not detected during 2018 and have not exceeded groundwater standards in any wells since 1998. As noted in Section 2.2, there are no groundwater standards for the gamma constituents; therefore, a groundwater screening level was used for comparison purposes. Figure 8 shows the historical strontium-90 and tritium concentration trends for the four wells sampled.

2.2.2 Former Landfill

Based on changes recommended in the *2012 Environmental Monitoring Report, Current and Former Landfill Areas*, monitoring wells are scheduled to be sampled every two years. However, the Sr-90 sampling frequency for wells 097-64, 106-02, 106-43, 106-44, and 106-45 is annual. All wells were sampled in 2018.

2.2.2.1 VOCs

There were no detections of VOCs above groundwater standards in Former Landfill Area monitoring wells in 2018 (Table 6). The maximum VOC concentration was 2.7 µg/L of chloroform in monitoring well 086-72. The trends for VOC results are shown on Figure 9. There have been no detections of VOCs above standards since 1998.

2.2.2.2 Water Chemistry Parameters

Groundwater samples were analyzed for ammonia, cyanide, TKN, sulfate, nitrite, nitrate, total nitrogen, chloride, alkalinity, TDS and TSS. During 2018, none of the water chemistry parameters exceeded applicable groundwater standards (Table 7). The trends of the alkalinity and chloride results are shown on Figure 10.

2.2.2.3 Metals

The sampling results are summarized in Table 8, and concentration trend plots for iron are shown on Figure 11. All metal detections were below groundwater standards during 2018 except for sodium in background well 086-42 (70,200 µg/L) and iron in well 106-02 (1,180 µg/L).

2.2.2.4 Pesticides/PCBs

There were no detections of pesticides or polychlorinated biphenyls (PCBs) during 2018. The last detection of pesticides was in 2002 and the last PCB was detected in 2008. The sampling results are summarized in Table 9.

2.2.2.1 Radionuclides

The sampling results are summarized in Table 10, and concentration trend plots for Strontium-90 and tritium are shown on Figure 12. Tritium was not detected above the MDA in any wells during 2018. Strontium-90 was sampled for in all wells and was detected in two wells in 2018 below the groundwater standard of 8 pCi/L. Strontium-90 was detected in well 106-44 at 2.62 pCi/L and in well 106-64 at 0.96 pCi/L.

Strontium-90 concentrations in well 097-64 have shown a low but increasing trend in 2014 and 2016 but has since dropped off and was not detected in 2018. Strontium-90 has not been detected above the standard of 8 pCi/L in Former Landfill monitoring wells since 2001. There were two estimated detections of gross beta activity in two wells at a concentration of 3.16 pCi/L in well 086-42 and 1.46 pCi/L in well 106-30.

2.2.3 Per- and Polyfluoroalkyl Substances (PFAS) Monitoring.

As part of the Per- and Polyfluoroalkyl Substances (PFAS) source area characterization effort, BNL collected samples of the groundwater in 2018 and 2019 for PFAS analyses. The full results of the characterization will be reported in the *2018 Annual Groundwater Status Report*. However, as part of the Phase 3 characterization, five of the monitoring wells were sampled in January 2019 and are located downgradient of the Current and Former Landfill Areas.

The combined Perfluorooctanesulfonate (PFOS) and Perfluorooctanoic acid (PFOA) results for the five wells are below EPA's lifetime health advisory level of 70 ng/L. The maximum PFOS concentration was 4.7 ng/L in Current Landfill well 088-109. The maximum PFOA detection was 16 ng/L in Current Landfill well 087-11. Table 11 presents the PFAS results for these five wells.

3.0 SOIL-GAS MONITORING

3.1 Soil-gas Monitoring Networks

Soil-gas readings were collected from wells surrounding the Current Landfill in March, June, September, and December 2018 and from the Former Landfill in August 2018. Methane, lower explosive limit (LEL), and hydrogen sulfide were measured using a Landtek GEM 2000. The LEL for methane is 5.3% and the upper explosive limit (UEL) is 15%.

3.1.1 Current Landfill

Along the perimeter of the Current Landfill, 58 points were sampled for soil-gas, which includes four outpost soil-gas well clusters, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue. The sampling points include 12 soil-gas well clusters consisting of three sampling intervals per cluster, and 11 soil-gas well couplets consisting of two sampling intervals per couplet. Table 12 describes each soil-gas well adjacent to the landfill. Their locations are illustrated on Figure 13.

3.1.2 Former Landfill Area

Twenty-four sampling points were monitored for the Former Landfill Area. These points include 12 well couplets consisting of two sampling points per couplet. Details of each soil-gas well are given in Table 12 and their locations shown in Figure 14.

3.1.3 Sampling Frequency

Soil-gas was monitored for each landfill in the following months.

Sampling Event	Current Landfill	Former Landfill
Round 1	March 2018	August 2018
Round 2	June 2018	None
Round 3	September 2018	None
Round 4	December 2018	None

3.2 Results of Soil-Gas Monitoring

Action levels for soil-gas are specified in 6 NYCRR Part 360-2.17(f) in terms of percent LEL, which is primarily related to the amount of methane present. This discussion focuses primarily on the

methane levels detected during monitoring. Hydrogen sulfide is monitored but has no regulatory action level. 6 NYCRR Part 360-2.17(f) specifies that active measures to control decomposition gases are required when the concentration of methane or other explosive gases exceeds 25 percent of the LEL (or 1.3% methane) in facility structures, or 100 percent (%) of the LEL (or 5.3% methane) at the site boundary.

3.2.1 Current Landfill

A total of 23 soil-gas monitoring well clusters are positioned around the Current Landfill (Figure 13) and were sampled quarterly during 2018. Potential receptors, or areas where methane can accumulate near the Current Landfill, include the National Weather Service office building located 480 feet north northwest of the Current Landfill on the north side of Brookhaven Avenue. The four outpost soil-gas locations, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue, are used to monitor the northern extent of the migration of landfill gas. Should methane extend to the south side of Brookhaven Avenue at concentrations exceeding 25 percent of the LEL (or 1.3% methane), active measures may be required to control its migration. This is a BNL administration limit that would trigger further evaluation.

The results of the soil-gas monitoring for 2018 are summarized in Table 13. Appendix A contains the field notes recorded during the sampling events. Instrument measurements show that methane continues to be generated in several areas of the landfill. The percent of the LEL is elevated along the western side and the southeast boundary of the Current Landfill. In addition, SGM-19 along the northern side of the Current Landfill had elevated LEL readings in all four samples. The elevated levels in these areas have remained stable since 1996 when monitoring began, and the current gas venting system appears to be controlling gas accumulation. These data are consistent with previous years (see Appendix C).

Outpost wells, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue and immediately upgradient of the landfill showed no methane during 2018, indicating that the methane accumulation and migration does not extend to this area. Should methane at concentrations exceeding 25 percent of the LEL (or 1.3% methane) extend to these outpost wells on the south side of Brookhaven Avenue, active measures may be required to control its migration.

Hydrogen sulfide is a product of anaerobic decay in landfills and can produce an odor like rotten eggs. It is a nuisance, but rarely a toxicity problem. For reference, the National Institute of Occupational Safety and Health sets an exposure limit of 10 parts per million (ppm) hydrogen sulfide in the breathing zone for an 8-hour period.

Hydrogen sulfide measurements collected from the soil-gas monitoring wells ranged from 0 ppm to 50 ppm. Well SGMW-03A located along the west section of the landfill, had the highest hydrogen sulfide concentration, which was above the 10 ppm exposure limit. However, the measurement was taken from a vapor point screened –2.5 – 7.5 ft below the surface and not from the ambient breathing zone. Elevated hydrogen sulfide was also detected in well SGMW-03B, which is screened deeper, at a concentration of 38 ppm. Like methane, receptors to hydrogen sulfide are typically located in areas such as basements where the gas can accumulate. Based upon the readings obtained from the outpost soil-gas wells along the south side of Brookhaven Avenue (GSGM-1 to GSGM-4), there is no evidence that hydrogen sulfide is migrating toward the National Weather Service building.

3.2.1.1 Trend in Soil-Gas Data

Appendix C contains the results of methane and hydrogen sulfide monitoring for the Current Landfill from 1996 through 2017. Generally the levels of methane and hydrogen sulfide in the wells along the northwest landfill boundary and southeast corner have remained elevated but stable.

3.2.2 Former Landfill Area

A total of 12 soil-gas monitoring well clusters are positioned around the Former Landfill Area (Figure 14). During 2018, the well clusters were monitored once in August. The only existing operating facility within the immediate vicinity of the Former Landfill Area is Building 670, located approximately 650 feet to the southeast. This building houses the Chemical Holes Sr-90 groundwater treatment system. Because this facility does not have a basement, there is minimal potential for hazardous levels of landfill gases to accumulate in this structure.

Based upon the sampling event, there was no methane or hydrogen sulfide detected. Table 12 details the 2018 soil-gas monitoring results for the Former Landfill Area. Appendix A contains the field notes recorded during the sampling events.

3.2.2.1 Trends in Soil-Gas Data

The results of monitoring the Former Landfill Area continue to be consistent with the initial survey of the methane gas migration conducted in 1995, during which concentrations between 0% to 0.1% methane were recorded. Methane has not been detected since 2005. Hydrogen sulfide gas also was measured during this survey. The hydrogen sulfide has not been detected since 2010. Appendix C includes the results of methane and hydrogen sulfide monitoring in the Former Landfill Area for 1996 through 2017.

Presently, there is no measured pathway for methane gas migration, nor do the concentrations represent an explosive hazard, as shown by the non-detectable readings on the LEL meter. The age of the Former Landfill Area and the types of materials disposed of would likely result in low levels or the absence of methane or hydrogen sulfide.

4.0 MAINTENANCE AND REPAIR

Monthly site inspections were performed by BNL at the Current and Former Landfill areas to monitor the structural and/or operational status of the landfill cap, gas vents, drainage structure, fences and environmental monitoring system (groundwater wells, soil-gas wells) in accordance with the O&M Manuals. A copy of the inspection reports is included in Appendix B. Maintenance and repair work completed by BNL is discussed below.

4.1 Landfill Cap and Gas Vents

To prevent ruts in the landfills caused by the weight of the lawn mowers during periods of above normal precipitation, the cutting of the grass is only conducted when optimal soil conditions are evident. The grass was only cut once in October at the Current and Former Landfills since there was significant precipitation this year and the landfill surface was spongy. The vegetation along the Current Landfill asphalt road edges was partially sprayed with herbicide. Pine seedlings observed growing on the edge of the Former Landfills were hand pulled at the time of inspection. The seedlings only penetrated the top soil cover. An animal burrow on the west slope of the Former Landfill was filled in at the time of inspection. The burrow did not penetrate past the protection layer of the cap. Two faded point of contact signs were replaced on both landfills.

4.2 Drainage Structures

The drainage structures at both the Current and Former Landfill areas were maintained. They were observed to be operational and structurally sound during the site inspections. Small pine seedlings and weeds were noted growing in the drainage channels of both landfills during various times of the year. The weeds died off as cold weather set in. If they grow back in sufficient numbers, they will either be cut back or sprayed with herbicide in 2019.

4.3 Environmental Monitoring System

The monitoring wells and soil-gas monitoring wells associated with the landfills required no significant maintenance. Access to the soil-gas monitoring wells was cleared via mechanical weed whacking prior to each sampling event.

4.4 Related Structures

No structures required maintenance during 2018.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Groundwater Monitoring

5.1.1 Conclusions for the Current Landfill

- Benzene was detected in downgradient well 087-11 at concentrations slightly above the groundwater standard with a maximum concentration of 1.7 µg/L. The other VOCs detected above the groundwater standard were chloroethane and 1,1-dichloroethane during 2018. 1,1-Dichloroethane was detected in two monitoring wells above the standard of 5 µg/L, 088-109 and 098-99. The maximum concentration of 1,1-dichloroethane during 2018 was 10 µg/L. During 2018, chloroethane concentrations ranged up to 47 µg/L indicating that VOCs continue to emanate from the landfill. An analysis of the trends of VOCs indicated the concentrations are stable to decreasing. The maximum TVOC concentration in downgradient monitoring well 098-99 was 6.5 µg/L in August. Volatile organic compounds from the Current Landfill are naturally attenuating and are not detected at the site boundary above the drinking water standard.
- Concentrations of landfill water chemistry parameters and metals such as ammonia and iron in several downgradient wells were above the upgradient values. This suggests that leachate continues to emanate from the landfill into groundwater. Ammonia was the only water chemistry parameter detected above standards in 2018. It was detected above the standard of 2 mg/L in downgradient well 087-11 at a high of 5.9 mg/L.
- During 2018, iron, sodium, and manganese in the background well, and aluminum, arsenic, iron, manganese, and sodium in several downgradient wells were detected above their respective groundwater standards.
- Strontium-90 and tritium were not detected in 2018. There have been no detections of radionuclides above the drinking water standards since 1998.

- Although low levels of contaminants continue to be detected, the landfill controls are effective at reducing the impact of the Current Landfill on groundwater quality as evidenced by the improving quality of groundwater downgradient of the landfill.

5.1.2 Recommendations for the Current Landfill

The monitoring well network for the Current Landfill is sufficient. No changes to the network or the sampling frequency are warranted at this time.

5.1.3 Conclusions for the Former Landfill Area

- The Former Landfill Area is not a source of VOC contamination. No VOCs were detected above groundwater standards in 2018.
- Water chemistry parameters were detected at concentrations approximating those of historic background monitoring well results, indicating that leachate generation is minimal to nonexistent. No results exceeded the applicable groundwater standards.
- All metal detections were below groundwater standards during 2018 except for sodium in background well 086-42 and iron in well 106-02.
- There were no detections of pesticides or polychlorinated biphenyls (PCBs) during 2018.
- Strontium-90 concentrations in well 097-64 have shown a low (below the standard of 8 pCi/L) but increasing trend in 2014 and 2016 and has since decreased and was not detected in 2018.
- The implemented landfill controls are effective, as evidenced by the improved quality of groundwater downgradient of the landfill.

5.1.4 Recommendations for the Former Landfill Area

- The monitoring well network and sampling schedule for the Former Landfill are sufficient. No changes are warranted at this time.

5.2 Soil-Gas Monitoring

5.2.1 Conclusions for the Current Landfill

Methane and/or hydrogen sulfide levels in wells located along the west landfill boundary, north landfill boundary and southeast corner have remained stable and have not shown any significant increases or decreases over time. No gas migration has been observed this year at the outpost soil-gas wells along Brookhaven Avenue.

5.2.2 Recommendations for the Current Landfill

The soil-gas monitoring program is adequate at this time.

5.2.3 Conclusions for the Former Landfill Area

Methane and hydrogen sulfide levels at the Former Landfill Area continue to show no landfill gas. Methane has not been detected near or above standards since monitoring began in 1996.

5.2.4 Recommendations for the Former Landfill Area

The soil-gas monitoring program is adequate at this time.

5.3 Maintenance and Repair

Maintenance of the landfill caps will continue in accordance with the O&M requirements.

5.3.1 Current Landfill

Monthly inspections and maintenance will continue in accordance with the O&M requirements. Access to the soil-gas monitoring wells will continue to be cleared via mechanical weed whacking. Continue removal of small pines and weeds in the drainage channel during 2019.

5.3.2 Former Landfill Area

Monthly inspections and maintenance will continue in accordance with the O&M requirements. Access to the soil-gas monitoring wells will continue to be cleared via mechanical weed whacking. Continue removal of small pines and weeds in the drainage channel during 2019.

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Table 1. 2018 Analytical Requirements for Groundwater Samples

Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2 VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sulfates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Cyanide	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Frequency (events/year)
087-09	CLF		Background	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b				2b	
087-11	CLF		Downgradient	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b				2b	
087-23	CLF		Downgradient	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^a	X ^a	X ^a	2b	
087-24	CLF		Downgradient	X ^a		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b				2b	
087-26	CLF		Downgradient	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b				2b	
087-27	CLF		Downgradient	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^a	X ^a	X ^a	2b	
088-109	CLF		Downgradient	X		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^a	X ^a	X ^a	4	
088-110	CLF		Downgradient	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b				2b	
088-21	CLF		Downgradient	X ^b		X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^b	X ^a	X ^a	X ^a	2b	
088-22	CLF		Downgradient	X ^a		X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a				1a	
088-23	CLF		Downgradient	X ^a		X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a				1a	
098-99	CLF (OUI-MW01-2017)	OU I (South Boundary)	Downgradient	X														4	
086-42	FLF		Background	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
086-72	FLF		Background	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
087-22	FLF		Background	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
097-17	FLF		Downgradient	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
097-277	FLF		Downgradient	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
097-64	FLF		Downgradient	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
106-02	FLF		Downgradient	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
106-20	FLF		Downgradient														X ^a	1a	
106-21	FLF		Downgradient														X ^a	1a	
106-30	FLF		Downgradient	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	X ^a	1a	
106-43	FLF		Downgradient														X ^a	1a	
106-44	FLF		Downgradient														X ^a	1a	
106-45	FLF		Downgradient														X ^a	1a	
106-64	FLF		Downgradient														X ^a	1a	

NOTES:

a: Collect in 4th Quarter only.

b: Collect in 2nd and 4th Quarters.

Table 2 Current Landfill - Summary of 2018 Volatile Organic Compound Data

Analyte	Groundwater Standards (ug/L)	087-09 6/4/2018	087-09 1/17/2019	087-11 6/4/2018	087-11 1/18/2019	087-23 6/4/2018	087-23 1/18/2019	087-24 1/18/2019	087-26 6/4/2018	087-26 1/17/2019	087-27 6/4/2018
1,1,1,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	0.5	U	0.5	U	1.63		1.7		0.45	J
Benzene, 1,2,4-trimethyl	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	0.5	U	0.5	U	0.83		0.95		0.61	J
Chlorobromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	5	0.5	U	0.5	U	3.87		2.08		1.88	
Chloroform	7	0.44	J	0.57		0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.04	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.05	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	5	1	U	1	U	1	U	1	U	1	U
Methyl bromide	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	10	0.5	U	0.5	U	0.17	J	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.26	J	0.5	U
o-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	3	0.5	U	0.5	U	0.28	J	0.5	U	0.32	J
sec-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	0.5	U	0.5	U	0.5	U	3.04		0.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
524.2 TVOC	--	0.44		0.57		6.78		7.77		3.71	
										3.09	
										0	
										0	
										0.24	
										0.74	

J = Estimated value.

Table 2 Current Landfill - Summary of 2018 Volatile Organic Compound Data

Analyte	087-27 1/17/2019 (ug/L)	088-109 1/23/2018 (ug/L)	088-109 6/4/2018 (ug/L)	088-109 8/10/2018 (ug/L)	088-109 1/17/2019 (ug/L)	088-110 6/4/2018 (ug/L)	088-110 1/18/2019 (ug/L)	088-21 6/5/2018 (ug/L)	088-21 1/18/2019 (ug/L)	088-22 1/18/2019 (ug/L)	088-23 1/18/2019 (ug/L)
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	9.69	6.76	10.9		5.51	0.5 U	0.17 J	0.5 U	0.5 U	0.5 U
1,1-Dichloroethylene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	0.5 U	0.36 J	0.22 J	0.58		0.2 J	0.69	0.23 J	0.5 U	0.5 U	0.5 U
Benzene, 1,2,4-trimethyl	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1,3,5-trimethyl-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene, 1-methylethyl-	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobromomethane	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	22	31.6	47.4		9.62	9.23	2.81	0.5 U	0.5 U	0.5 U
Chloroform	0.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethylene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cymene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DBCP	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
EDB	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethene, 1,2-dichloro-, (E)-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m/p xylene	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl bromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl chloride	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Dichlorobenzene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	1 U	U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.94 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
524.2 TVOC	0.7	32.05	39.08	70.65		15.33	9.92	3.21	0	0	0.18

J = Estimated value.

Table 2 Current Landfill - Summary of 2018 Volatile Organic Compound Data

<i>Analyte</i>	098-99 1/23/2018 (ug/L)	098-99 6/4/2018 (ug/L)	098-99 8/10/2018 (ug/L)	098-99 1/18/2019 (ug/L)		
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	4.87		3.86		5.95	
1,1-Dichloroethylene	0.26	J	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	0.5	U	0.5	U	0.5	U
Bromobenzene	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	1.07		0.5	U
Chloroform	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.19	J	0.37	J	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U
DBCP	1	U	1	U	1	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.32	J	0.59	
524.2 TVOC	5.32		5.62		6.54	
					2.23	

J = Estimated value.

Table 3. Current Landfill - Summary of 2018 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	087-09 6/4/2018 (mg/L)	087-09 1/17/2019 (mg/L)	087-11 6/4/2018 (mg/L)	087-11 1/18/2019 (mg/L)	087-23 6/4/2018 (mg/L)	087-23 1/18/2019 (mg/L)	087-24 6/4/2018 (mg/L)	087-24 1/18/2019 (mg/L)
Alkalinity (as CaCO ₃)	--	33.8		71.4		191		239	
Ammonia (as N)	2	0.0969		0.17		1.65		5.9	
Chloride	250	31.6		33.2		53		49.4	
Cyanide	0.2	0.00167	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	10	1.29		0.509		0.066	U	0.033	U
Nitrite (as N)	1	0.033	U	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	10	1.55		0.425		0.85	U	0.85	U
Nitrogen	--	1.73		0.805		2.11	J	6.1	
Sulfate	250	11.6		9.75		8.17		5.16	
Total Kjeldahl Nitrogen	--	0.186		0.38		2.11		6.1	
TDS	--	109		103		331		276	
TSS	--	0.7	J	6		23.6		36	
								2.83	
								38	
								0.57	U
								0.8	J

U = Not detected.

J = Estimated value.

Table 3. Current Landfill - Summary of 2018 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	087-26 6/4/2018 (mg/L)	087-26 1/17/2019 (mg/L)	087-27 6/4/2018 (mg/L)	087-27 1/17/2019 (mg/L)	088-109 6/4/2018 (mg/L)	088-109 1/17/2019 (mg/L)	088-110 6/4/2018 (mg/L)	088-110 1/18/2019 (mg/L)								
Alkalinity (as CaCO ₃)	--	25		26.2		41		73.8		134		50.6		83		57	
Ammonia (as N)	2	0.0626		0.0458	J	0.222		0.0773		1.97		0.531		0.611		0.328	
Chloride	250	26.6		33.9		8.58		6.75		14.2		11.5		25.5		25.5	
Cyanide	0.2	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	10	0.552		0.52		0.0962	J	0.0733	J	0.132	U	0.0882	J	0.249	J	0.033	U
Nitrite (as N)	1	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	10	0.587		0.503		0.017	U	0.017	U	0.85	U	0.085	U	0.85	U	0.17	U
Nitrogen	--	0.745		0.503		0.226		0.033	U	2.24	J	0.494		0.85	U	0.17	U
Sulfate	250	11.9		12.6		11.7		7.7		16.9		15.8		19.7		17.8	
Total Kjeldahl Nitrogen	--	0.158		0.033	U	0.226		0.033	U	2.24		0.494		0.795		0.36	
TDS	--	94.3		64.3		82.9		37.1		204		40		217		77.1	
TSS	--	2.14	J	0.8	J	2.04	J	4.6	J	25.6		12		19.6		20	J

U = Not detected.

J = Estimated value.

Table 3. Current Landfill - Summary of 2018 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	088-21 6/5/2018 (mg/L)	088-21 1/18/2019 (mg/L)	088-22 1/18/2019 (mg/L)	088-23 1/18/2019 (mg/L)		
Alkalinity (as CaCO ₃)	--	29.6	31.2	56.8	10.4		
Ammonia (as N)	2	0.12	0.063	0.0458	J	0.043	J
Chloride	250	44.4	13.1	21.4		16.6	
Cyanide	0.2	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	10	0.143	0.142	0.23		0.159	
Nitrite (as N)	1	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	10	0.131	0.118	0.195		0.0874	
Nitrogen	--	0.602	0.134	0.195		0.0874	J
Sulfate	250	4.06	2.98	9.59		15.2	
Total Kjeldahl Nitrogen	--	0.471	0.033	U	0.033	U	0.033
TDS	--	117	3.4	U	77.1		10
TSS	--	0.6	J	0.816	J	2.2	J
						2.8	

U = Not detected.

J = Estimated value.

Table 4. Current Landfill - Summary of 2018 Metals Data

Analyte	Groundwater Standards (µg/L)	087-09 6/4/2018		087-09 1/17/2019		087-11 6/4/2018		087-11 1/18/2019		087-23 6/4/2018		087-23 1/18/2019		087-24 6/4/2018		087-24 1/18/2019		087-26 6/4/2018	
Aluminum	200	68	U	68	U	68	U	1160		68	U	82.4	B	68	U	68	U	68	U
Antimony	3	3.5	U	3.5	U	3.5	U	3.5		3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
Arsenic	10	2	U	2.06	B	8.51		9.9		7.73		12		2	U	2	U	2	U
Barium	1000	23.6	B	36.7	B	26.7	B	48.2	B	28.2	B	45	B	8.1	B	23.5	B	27.9	B
Beryllium	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	11900		23100		22000		28700		6100		10000		6120		12800		6690	
Chromium	50	17		14.7		1	U	1	U	1.67	B	1	U	1	U	1	U	1	U
Cobalt	--	1	U	2.07	B	8.45	B	10.4	B	7.74	B	19.4	B	1	U	1	U	1.34	B
Copper	200	3	U	3.71	B	10.8	B	6.94	B	3	U	3	U	3	U	3	U	3	U
Iron	300	37.1	BE	1430		91800	E	110000		18600	E	46700		31.2	BE	30	U	593	E
Lead	25	0.5	U	0.5	U	0.599	B	0.532	B	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	3300	B	4600	B	4960	B	5540		2250	B	3470	B	3800	B	7760		4980	B
Manganese	300	4.22	BE	561		2990	E	2160		4200	E	4490		2	UE	2	U	6.08	BE
Mercury	0.7	0.067	U	0.067	U	0.067	U												
Nickel	100	8.21	B	5.94	B	1.5	U	2.42	B	2.5	B	4.49	B	1.5	U	1.5	U	1.5	U
Potassium	--	1320	BE	3180	B	2190	BE	3940	B	744	BE	1430	B	1010	BE	1750	B	1500	BE
Selenium	10	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Silver	50	1	U	1	U	3.72	B	2.25	B	1.09	B	1.36	B	1	U	1	U	1	U
Sodium	20000	20300	E	21600		27100	E	31800		5040	E	8970		11100	E	29500		15500	E
Thallium	0.5	0.6	U	0.6	U	0.6	U												
Vanadium	--	1	U	1	U	3.89	B	1	U	1	U	1	U	1	U	1	U	1	U
Zinc	2000	3.3	U	5.54	B	16.3	B	11.5	B	4.19	B	5.48	B	3.3	U	3.3	U	3.3	U

Table 4. Current Landfill - Summary of 2018 Metals Data

Analyte	Groundwater Standards (µg/L)	087-26 1/17/2019		087-27 6/4/2018		087-27 1/17/2019		088-109 6/4/2018		088-109 1/17/2019		088-110 6/4/2018		088-110 1/18/2019		088-21 6/5/2018		088-21 1/18/2019	
Aluminum	200	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U	68	U
Antimony	3	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
Arsenic	10	2	U	3.33	B	2.24	B	6.69		3.17	B	11.1		7.59		2	U	2	U
Barium	1000	32.2	B	7.95	B	8.21	B	49.8	B	19.6	B	29.1	B	30.4	B	12.4	B	3.74	B
Beryllium	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	7380		9490		17000		23600		18300		17500		14900		5230		4190	B
Chromium	50	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cobalt	--	1	U	1	U	1	U	6.84	B	4.55	B	3.7	B	2.33	B	1	U	1	U
Copper	200	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Iron	300	204		5730	E	3330		47900	E	11700		48600	E	35600		74.9	B	103	
Lead	25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	5250		4320	B	9080		7340		5880		5300		4590	B	2630	B	2080	B
Manganese	300	2.52	B	479	E	874		2730	E	1050		2640	E	2620		34.6		15.5	
Mercury	0.7	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	100	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Potassium	--	1600	B	1370	BE	1290	B	3590	BE	1750	B	2210	BE	2190	B	1020	B	517	B
Selenium	10	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Silver	50	1	U	1	U	1	U	2.27	B	1	U	2.12	B	1.13	B	1	U	1	U
Sodium	20000	21400		5020	E	5780		10400	E	8280		15500	E	19100		32100		16200	
Thallium	0.5	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Vanadium	--	1	U	1	U	1	U	1.11	B	1	U	1.75	B	1	U	1	U	1	U
Zinc	2000	3.3	U	3.35	B	3.3	U	4.51	B	4.84	B	4.41	B	3.3	U	3.3	U	3.3	U

Table 4. Current Landfill - Summary of 2018 Metals Data

Analyte	Groundwater Standards ($\mu\text{g/L}$)	088-22 1/18/2019 ($\mu\text{g/L}$)	088-23 1/18/2019 ($\mu\text{g/L}$)		
Aluminum	200	68	U	68	U
Antimony	3	3.5	U	3.5	U
Arsenic	10	2.26	B	2.12	B
Barium	1000	63	B	4.64	B
Beryllium	3	1	U	1	U
Cadmium	5	1	U	1	U
Calcium	--	14200		5060	
Chromium	50	1	U	1	U
Cobalt	--	1.25	B	1.24	B
Copper	200	3	U	3	U
Iron	300	529		1580	
Lead	25	0.5	U	0.5	U
Magnesium	35000	8690		2270	B
Manganese	300	81.7		314	
Mercury	0.7	0.067	U	0.067	U
Nickel	100	1.5	U	2.88	B
Potassium	--	2080	B	827	B
Selenium	10	2	U	2	U
Silver	50	1	U	1	U
Sodium	20000	13500		13100	
Thallium	0.5	0.6	U	0.6	U
Vanadium	--	1	U	1	U
Zinc	2000	3.32	B	3.3	U

U = Not detected.

B = Indicates that the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

E = Used when the reported value is estimated because of the presence of interference.

Table 5. Current Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	087-23 1/18/2019 pCi/L				087-27 1/17/2019 pCi/L				088-109 1/17/2019 pCi/L				088-21 1/18/2019 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2	4.46	U	15.1	8.33	-0.388	U	3.1	1.95	-2.66	U	5.57	3.58	16.5	U	22.3	12.8
Beryllium-7	40000	-0.219	U	15.4	8.68	-2.13	U	14.4	8.37	5.16	U	13.5	7.53	-4.58	U	19.7	11.2
Cesium-134	80	0.0552	U	1.95	1.12	0.308	U	2.31	1.24	0.0814	U	1.6	0.877	0.148	U	2.8	1.56
Cesium-137	120	-0.201	U	1.83	1.07	-0.388	U	1.95	1.16	-0.329	U	1.55	0.933	-0.395	U	2.64	1.52
Co-60	200	-0.173	U	1.99	1.27	2.67	J-UI	2.08	2	1.57	U	1.75	1.51	-0.201	U	2.77	1.5
Cobalt-57	4000	0.019	U	1.52	0.887	0.217	U	1.31	0.771	-0.511	U	1.22	0.749	0.0764	U	2.2	1.28
Europium-152	841	-0.194	U	5.23	2.91	-1.18	U	4.94	2.84	1.64	U	4.45	2.46	-0.598	U	7.31	4.04
Europium-154	573	-2.08	U	5.33	3.14	-0.429	U	5.91	3.32	-0.293	U	4.37	2.49	3.32	U	8.21	3.98
Europium-155	4000	1.25	U	6.61	3.78	1.46	U	5.02	2.91	-3.36	U	5.03	4.45	2.91	U	9.84	7.69
Manganese-54	2000	-0.0636	U	1.69	0.917	0.822	U	2.21	1.16	-0.325	U	1.48	0.836	0.0621	U	2.28	1.27
Sodium-22	400	-0.73	U	1.87	1.1	0.0938	U	2.06	1.13	-0.0718	U	1.55	0.876	1.13	U	2.87	1.39
Strontium-90	8	0.289	U	0.457	0.274	0.593	U	0.759	0.469	0.63	U	0.693	0.425	0.239	U	0.381	0.229
Tritium	20000	-117	U	365	197	-238	U	436	228	-198	U	431	229	-41.7	U	360	199
Zinc-65	360	2.39	U	3.72	1.96	-0.323	U	4.07	3.65	0.154	U	3.41	2.18	-3.11	U	4.68	3.28

U = Not detected.

J = Associated numerical value is an estimated quantity.

UI = (Uncertain identification for gamma spectroscopy) - Radionuclide peaks that are detected but fail to meet the positive identification criteria.

Table 6. Former Landfill - Summary of 2018 Volatile Organic Compound Data

Analyte	Groundwater Standards (µg/L)	086-42		086-72		087-22		097-17		097-277		097-64		106-02		106-30	
		1/22/2019	(µg/L)	1/22/2019	(µg/L)	1/22/2019	(µg/L)	1/23/2019	(µg/L)	1/22/2019	(µg/L)	1/23/2019	(µg/L)	1/23/2019	(µg/L)	1/23/2019	(µg/L)
1,1,1,2-Tetrachloroethane	5	0.5	U														
1,1,1-Trichloroethane	5	0.5	U	0.31	J	0.5	U	1.06									
1,1,2,2-Tetrachloroethane	5	0.5	U														
1,1,2-Trichloroethane	1	0.5	U														
1,1-Dichloroethane	5	0.5	U	0.18	J												
1,1-Dichloroethylene	5	0.5	U														
1,1-Dichloropropene	5	0.5	U														
1,2,3-Trichlorobenzene	5	0.5	U														
1,2,3-Trichloropropane	0.04	0.5	U														
1,2,4-Trichlorobenzene	5	0.5	U														
1,2-Dichloroethane	0.6	0.5	U														
1,2-Dichloropropane	1	0.5	U														
1,3-Dichloropropane	5	0.5	U														
2,2-Dichloropropane	5	0.5	U														
Benzene	1	0.5	U														
Benzene, 1,2,4-trimethyl	5	0.5	U														
Benzene, 1,3,5-trimethyl-	5	0.5	U														
Benzene, 1-methylethyl-	--	0.5	U														
Bromobenzene	5	0.5	U														
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.57		0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U	0.3	J	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U														
Chlorobenzene	5	0.5	U														
Chlorobromomethane	5	0.5	U														
Chloroethane	5	0.5	U														
Chloroform	7	0.25	J	2.66		0.52		0.5	U	1.09		0.5	U	0.34	J	0.17	J
cis-1,2-Dichloroethylene	5	0.5	U														
cis-1,3-Dichloropropene	0.4	0.5	U														
Cymene	5	0.5	U														
DBCP	0.04	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.8		0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U														
Dichlorodifluoromethane	5	0.5	U														
EDB	0.05	0.5	U														
Ethene, 1,2-dichloro-, (E)-	5	0.5	U														
Ethylbenzene	5	0.5	U														
Hexachlorobutadiene	0.5	0.5	U														
m-Dichlorobenzene	3	0.5	U														
m/p xylene	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	5	0.5	U														
Methyl chloride	5	0.5	U														
Methyl tert-butyl ether	10	0.5	U														
Methylene chloride	5	0.5	U														
n-Butylbenzene	5	0.5	U														
n-Propylbenzene	5	0.5	U														
Naphthalene	10	0.5	U														
o-Chlorotoluene	5	0.5	U														
o-Dichlorobenzene	3	0.5	U														
o-Xylene	5	0.5	U														
p-Chlorotoluene	5	0.5	U														
p-Dichlorobenzene	3	0.5	U														
sec-Butylbenzene	5	0.5	U														
Styrene	5	0.5	U														
tert-Butylbenzene	5	0.5	U														
Tetrachloroethylene	5	0.5	U														
Toluene	5	0.5	U														
trans-1,3-Dichloropropene	0.4	0.5	U														
Trichloroethylene	5	0.5	U														
Trichlorofluoromethane	5	0.5	U														
Vinyl chloride	2	0.5	U														
524.2 TVOC	--	0.25		2.66		0.52		0		2.76		0.31		0.34		1.41	

U = Not detected

Table 7. Former Landfill - Summary of 2018 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	086-42 1/22/2019 (mg/L)		086-72 1/22/2019 (mg/L)		087-22 1/22/2019 (mg/L)		097-17 1/23/2019 (mg/L)		097-277 1/22/2019 (mg/L)		097-64 1/23/2019 (mg/L)		106-02 1/23/2019 (mg/L)		106-30 1/23/2019 (mg/L)	
Alkalinity (as CaCO ₃)	--	44.4		4.6		4.8		10.6		5.6		9.4		8.8		14.2	
Ammonia (as N)	2	0.0541		0.0607		0.0901		0.0336	J	0.047	J	0.017	U	0.017	U	0.0424	J
Chloride	250	100		12		8.78		3.13		34		4.69		17.8		6.3	
Cyanide	0.2	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	10	2.06	H	0.0854	J	0.69		0.292		0.417	H	0.203		0.283		0.109	
Nitrite (as N)	1	0.033	HU	0.033	U	0.033	U	0.033	U	0.033	HU	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	10	2.54		0.113		0.675		0.24		0.459		0.14		0.295		0.0694	
Nitrogen	--	2.6		0.113		0.675		0.273		0.459		0.14		0.295		0.0694	J
Sulfate	250	21.4		8.13		9.37		7.7		12.5		8.54		13.4		19.5	
Total Kjeldahl Nitrogen	--	0.0595	J	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
TDS	--	209		27.1		14.3	J	41.4		80		55.7		88.6		60	
TSS	--	5.7		3.5		1.6	J	1.5	J	0.57	U	0.57	U	13.2		1	J

U = Not detected.

J = Estimated value.

H = Analytical holding time was exceeded. The analysis was performed within a couple of hours of the holding time expiring. The associated numerical value is an estimated quantity based on holding time exceedance.

Table 8. Former Landfill - Summary of 2018 Metals Data

Analyte	Groundwater Standards (ug/L)	086-42 1/22/2019		086-72 1/22/2019		087-22 1/22/2019		097-17 1/23/2019		097-277 1/22/2019		097-64 1/23/2019		106-02 1/23/2019		106-30 1/23/2019	
Aluminum		133	B	69.5	B	105	B	68	U	68	U	73.2	B	127	B	68	U
Antimony	3	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
Arsenic	10	2.6	B	2.65	B	2.53	B	2.72	B	2.42	B	2.59	B	2.42	B	2.75	B
Barium	1000	28.7	B	14.4	B	16.6	B	6.94	B	23.1	B	20.3	B	15.5	B	10.2	B
Beryllium	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	--	11500		4020	B	2910	B	3300	B	6100		4200	B	7860		6010	
Chromium	50	3.94	B	1	U	1.06	B	1	U	1	U	1	U	1.23	B	1	U
Cobalt	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Copper	200	3	U	3	U	3	U	3	U	3	U	14.7	B	3	U	3	U
Iron	300	246		78	B	236		30	U	30	U	30	U	1180		30	U
Lead	25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.31	B	0.5	U
Magnesium	35000	2780	B	1780	B	1600	B	1170	B	3790	B	988	B	1640	B	1460	B
Manganese	300	13.8	B	7.38	B	7.44	B	4.58	B	23		8.74	B	10.7	B	3.41	B
Mercury	0.7	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	100	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	23.2	B	1.5	U	1.5	U
Potassium	--	2570	BE	882	BE	998	BE	660	B	1310	BE	866	B	1410	B	1270	B
Selenium	10	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Silver	50	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Sodium	20000	70200		7390		6200		4100	B	16200		4720	B	9900		9650	
Thallium	0.5	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Vanadium	--	1	U	1	U	1.16	B	1	U	1	U	1	U	1.04	B	1	U
Zinc	2000	7.92	B	3.87	B	6.09	B	3.3	U	3.3	U	3.3	U	12.7	B	3.3	U

U = Not detected.

B = Indicates that the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

E = Used when the reported value is estimated because of the presence of interference.

Table 9. Former Landfill - Summary of 2018 Pesticide/PCB Data

Analyte	Groundwater Standards (ug/L)	086-42 1/22/2019	086-72 1/22/2019	087-22 1/22/2019	097-17 1/23/2019	097-277 1/22/2019	097-64 1/23/2019	106-02 1/23/2019	106-30 1/23/2019
4,4"-DDD	0.3	0.0374	U	0.0381	U	0.0381	U	0.0377	U
4,4"-DDE	0.2	0.0374	U	0.0381	U	0.0381	U	0.0377	U
4,4"-DDT	0.2	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Aldrin	0	0.0187	U	0.019	U	0.019	U	0.0189	U
alpha-BHC	0.01	0.0187	U	0.019	U	0.019	U	0.0189	U
beta-BHC	0.01	0.0187	U	0.019	U	0.019	U	0.0189	U
Chlordane	0.05	0.234	U	0.238	U	0.238	U	0.236	U
delta-BHC	0.04	0.0187	U	0.019	U	0.019	U	0.0189	U
Dieldrin	0.004	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Endosulfan I	0.009	0.0187	U	0.019	U	0.019	U	0.0189	U
Endosulfan II	--	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Endosulfan sulfate	--	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Endrin	0	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Endrin aldehyde	5	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Endrin ketone	5	0.0374	U	0.0381	U	0.0381	U	0.0377	U
Heptachlor	0.04	0.0187	U	0.019	U	0.019	U	0.0189	U
Heptachlor epoxide	0.03	0.0187	U	0.019	U	0.019	U	0.0189	U
Lindane	0.05	0.0187	U	0.019	U	0.019	U	0.0189	U
Methoxychlor	35	0.187	U	0.19	U	0.19	U	0.189	U
Toxaphene	0.06	0.467	U	0.476	U	0.476	U	0.472	U

U = Not detected.

Table 10. Former Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	086-42 1/22/2019 pCi/L				086-72 1/22/2019 pCi/L				087-22 1/22/2019 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2	1.93	U	16.3	10.6	0.422	U	17.4	10.9	-0.445	U	11.6	6.44
Beryllium-7	40000	-2.83	U	17.2	9.92	-1.42	U	16.4	9.55	4.01	U	16.1	8.68
Cesium-134	80	-0.0701	U	2.12	1.2	0.718	U	2.21	1.17	-0.346	U	2.02	1.25
Cesium-137	120	-0.442	U	2.11	1.23	0.196	U	2.05	1.11	-0.337	U	1.96	1.14
Co-60	200	0.71	U	2.32	1.15	0.55	U	2.21	1.18	0.23	U	2.22	1.19
Cobalt-57	4000	0.136	U	1.91	1.06	0.864	U	1.81	1.06	0.725	U	1.51	1.17
Europium-152	841	0.676	U	6.09	3.39	-1.16	U	5.64	3.27	-3.47	U	5.21	3.42
Europium-154	573	-0.343	U	6.04	3.23	-0.326	U	5.91	3.35	-0.0152	U	5.83	3.16
Europium-155	4000	3.69	U	8.26	4.9	0.602	U	7.45	4.44	-1.83	U	6.47	3.77
Gross Alpha	15	0.815	U	1.98	1.15	0.0562	U	1.99	1.02	1.03	U	1.93	1.18
Gross Beta	1000	3.16	J	1.43	1.03	0.343	U	1.38	0.786	1.05	U	1.88	1.13
Manganese-54	2000	-3.3	U	1.74	1.97	0.689	U	1.94	1.02	-0.571	U	1.77	1.07
Sodium-22	400	-0.448	U	2.12	1.17	-0.458	U	2.06	1.2	-0.0333	U	2.04	1.11
Strontium-90	8	-0.0055	U	0.409	0.231	0.116	U	0.79	0.457	-0.172	U	0.753	0.425
Tritium	20000	17.5	U	367	207	-125	U	348	187	-19	U	365	204
Zinc-65	360	-0.542	U	4.2	2.59	1.07	U	4.29	2.6	-0.226	U	4.45	2.79

Table 10. Former Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	097-17 1/23/2019 pCi/L				097-277 1/22/2019 pCi/L				097-64 1/23/2019 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2	1.71	U	9.01	5.41	-1.96	U	16.2	9.5	-6.6	U	12	10.1
Beryllium-7	40000	0.25	U	14.4	8.08	-3.92	U	17.5	10.3	-4.48	U	13.8	7.99
Cesium-134	80	1.18	U	2	1.05	-0.333	U	2.31	1.3	-1.06	U	1.62	1.02
Cesium-137	120	0.708	U	1.71	2.72	-0.959	U	2.05	1.18	-0.0113	U	1.78	1
Co-60	200	0.272	U	1.71	1.82	0.397	U	2.46	1.34	-0.638	U	1.78	1.02
Cobalt-57	4000	-0.627	U	1.44	0.865	0.637	U	1.93	1.14	0.349	U	1.51	0.873
Europium-152	841	-0.172	U	5.05	2.8	3.35	U	6.57	3.58	2.16	U	5.07	3.91
Europium-154	573	0.939	U	5.68	3.02	0.0776	U	6.37	3.56	0.329	U	5.44	2.87
Europium-155	4000	1.41	U	6.14	3.51	0.572	U	7.82	4.66	-2.25	U	6.16	4.68
Gross Alpha	15	-0.054	U	1.93	1.02	-0.704	U	1.96	0.825	-0.792	U	1.99	0.828
Gross Beta	1000	1.46	U	1.52	0.954	0.99	U	1.24	0.768	0.571	U	2.05	1.19
Manganese-54	2000	0.149	U	1.75	0.997	-0.502	U	1.91	1.09	0.0675	U	1.74	0.987
Sodium-22	400	0.583	U	2.01	1.04	-0.0275	U	2.22	1.24	0.128	U	1.91	1.01
Strontium-90	8	0.023	U	0.385	0.219	-0.392	U	0.786	0.399	0.551	U	0.796	0.478
Tritium	20000	-20.4	U	361	202	6.66	U	362	204	-23.4	U	369	206
Zinc-65	360	1.11	U	3.68	2.12	-1.92	U	3.68	2.61	1.98	U	2.52	3.1

Table 10. Former Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	106-02 1/23/2019 pCi/L				106-20 6/5/2018 pCi/L				106-20 1/14/2019 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2	-5.01	U	15.5	10								
Beryllium-7	40000	1.2	U	14.8	8.5								
Cesium-134	80	0.396	U	1.87	1.03								
Cesium-137	120	0.278	U	1.77	0.952								
Co-60	200	-0.353	U	1.78	1.04								
Cobalt-57	4000	1.32	U	1.48	1.4								
Europium-152	841	2.63	U	5.29	3.03								
Europium-154	573	-1.87	U	5.31	3.19								
Europium-155	4000	0.951	U	6.63	3.94								
Gross Alpha	15	0.149	U	1.96	0.994								
Gross Beta	1000	1.05	U	1.33	0.826								
Manganese-54	2000	0.585	U	1.69	0.875								
Sodium-22	400	-0.676	U	1.86	1.12								
Strontium-90	8	-0.342	U	0.775	0.42	0.336	U	0.761	0.447	-0.00493	U	0.737	0.428
Tritium	20000	-213	U	367	192								
Zinc-65	360	2.56	U	4.23	2.18								

Table 10. Former Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	106-21 6/5/2018 pCi/L				106-21 1/14/2019 pCi/L				106-30 1/23/2019 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2									-0.361	U	11	6.31
Beryllium-7	40000									5.82	U	14.6	7.94
Cesium-134	80									-0.026	U	1.85	1
Cesium-137	120									-0.0754	U	1.75	1.02
Co-60	200									-0.0665	U	1.75	0.969
Cobalt-57	4000									-0.182	U	1.49	0.888
Europium-152	841									0.55	U	5.27	2.93
Europium-154	573									-0.868	U	5.05	2.87
Europium-155	4000									-0.821	U	6.42	3.81
Gross Alpha	15									0.792	U	1.94	1.12
Gross Beta	1000									1.46	J	1.17	0.799
Manganese-54	2000									0.442	U	1.54	2.05
Sodium-22	400									-0.0678	U	1.77	0.982
Strontium-90	8	-0.365	U	0.766	0.407	0.237	U	0.434	0.259	-0.486	U	0.74	0.404
Tritium	20000									-69.7	U	354	195
Zinc-65	360									1.03	U	4.13	2.49

Table 10. Former Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	106-43 1/23/2019 pCi/L				106-44 1/16/2019 pCi/L				106-45 1/23/2019 pCi/L			
		Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.2												
Beryllium-7	40000												
Cesium-134	80												
Cesium-137	120												
Co-60	200												
Cobalt-57	4000												
Europium-152	841												
Europium-154	573												
Europium-155	4000												
Gross Alpha	15												
Gross Beta	1000												
Manganese-54	2000												
Sodium-22	400												
Strontium-90	8	0.327	U	0.402	0.245	2.62		0.788	0.671	0.409	U	0.789	0.469
Tritium	20000												
Zinc-65	360												

Table 10. Former Landfill - Summary of 2018 Radionuclide Data

Analyte	Groundwater Standards pCi/L	106-64 1/16/2019 pCi/L			
		Result	Qual	MDA	Error
Americium-241	1.2				
Beryllium-7	40000				
Cesium-134	80				
Cesium-137	120				
Co-60	200				
Cobalt-57	4000				
Europium-152	841				
Europium-154	573				
Europium-155	4000				
Gross Alpha	15				
Gross Beta	1000				
Manganese-54	2000				
Sodium-22	400				
Strontium-90	8	0.963		0.762	0.503
Tritium	20000				
Zinc-65	360				

U = Not detected.

J = Estimated value.

Table 11. Current and Former Landfill 2018 PFAS Monitoring Well Results (ng/L) (samples collected 1/11/19)

Chemical		Perfluorooctanesulfonate (PFOS)		Perfluoroundecanoic acid (PFUdA)		N-methylperfluoro-1-octanesulfonamidoacetic acid		Perfluoropentanoic acid (PFPeA)		Perfluoropentanesulfonate (PFPeS)		N-ethylperfluoro-1-octanesulfonamidoacetic acid		Perfluorohexanoic acid (PFHxA)		Perfluorododecanoic acid (PFDoA)		Perfluoroctanoic acid (PFOA)		Perfluorodecanoic acid (PFDA)		Perfluorodecanesulfonate (PFDS)		Perfluorhexanesulfonate (PFHxS)		Perfluorobutanoic acid (PFBA)		Perfluorobutanesulfonate (PFBS)		Perfluorooctanoic acid (PFHpA)		Perfluorooctanesulfonate (PFHps)		Perfluoronanoic acid (PFNA)		Perfluorotetradecanoic acid (PFTeDA)		Perfluoronananesulfonate (PFNS)		Perfluorotridecanoic acid (PFTrDA)		Perfluorooctanesulfonamide (PFOSA)		PFOA/PFOS (Combined)	
Current Landfill		<	<	<	<																																								
087-11		<	<	<	12.1	0.7J	<	10.3	<	16	<	<	7.8	<	<	<	9.9	23.9	1.1J	3.4	<	<	<	24.5	6.6	1.3J	1.4J	<	<	<	<	<	16												
088-109	4.7	<	<	<	0.9J	1J	<	1.3J	<																							12.5													
088-110	0.6J	<	<	<	1J	<	<	1.4J	<	2.7	<	<					1.7	4.2	<	<	<	<	<								3.3														
Former Landfill																																													
097-64	<	<	<	<	1J	<	<	0.8J	<	1J	<	3.3	<	<	<	<	2.2	2.2	<	<	<	<	<	1J	<	<	<	<	<	<	1														
106-30	<	<	<	<	<	<	<	1J	<								1.5J	3.3	<	1J	<	<	<									3.3													

<: Not detected. Typical detection limit is 0.6 ng/L

J: Estimated concentration

Table 12
Current Landfill Soil Gas Monitoring Well Description

Current Landfill			
Soil Gas Monitoring Well	Screen Location	Top of Screen (Feet BLS)	Bottom Screen (Feet BLS)
SGM-1 PROBE A	Shallow	2.5	7.5
SGM-1 PROBE B	Intermediate	10.5	17.5
SGM-1 PROBE C	Deep	20	29.5
SGM-2 PROBE A	Shallow	2.5	7.5
SGM-2 PROBE B	Intermediate	10.5	16
SGM-2 PROBE C	Deep	19	28
SGM-3 PROBE A	Shallow	2.5	7.5
SGM-3 PROBE B	Intermediate	10.5	17
SGM-3 PROBE C	Deep	20	29
SGM-4 PROBE A	Shallow	2.5	7.5
SGM-4 PROBE B	Intermediate	10.5	20
SGM-4 PROBE C	Deep	23	32
SGM-5 PROBE A	Shallow	2.5	7.5
SGM-5 PROBE B	Intermediate	10.5	22
SGM-5 PROBE C	Deep	25	34
SGM-6 PROBE A	Shallow	2.5	7.5
SGM-6 PROBE B	Intermediate	10.5	18.5
SGM-6 PROBE C	Deep	21.5	30.5
SGM-7 PROBE A	Shallow	2.5	7.5
SGM-7 PROBE B	Intermediate	10.5	16
SGM-7 PROBE C	Deep	19	26
SGM-8 PROBE A	Shallow	2.5	7.5
SGM-8 PROBE B	Intermediate	10.5	16.5
SGM-8 PROBE C	Deep	19.5	28.5
SGM-9 PROBE A	Shallow	2.5	7.5
SGM-9 PROBE B	Intermediate	10.5	20.5
SGM-9 PROBE C	Deep	23.5	32.5
SGM-10 PROBE A	Shallow	2.5	7.5
SGM-10 PROBE B	Intermediate	10.5	15.5
SGM-10 PROBE C	Deep	18.5	27.5
SGM-11 PROBE A	Shallow	2.5	7.5
SGM-11 PROBE B	Intermediate	10.5	16
SGM-12 PROBE A	Shallow	2.5	7.5
SGM-12 PROBE B	Intermediate	10.5	15
SGM-13 PROBE A	Shallow	2.5	7.5
SGM-13 PROBE B	Intermediate	10.5	13
SGM-14 PROBE A	Shallow	2.5	7.5
SGM-14 PROBE B	Intermediate	10.5	13
SGM-15 PROBE A	Shallow	2.5	5.5
SGM-15 PROBE B	Intermediate	8.5	11.5
SGM-16 PROBE A	Shallow	2.5	5.5
SGM-16 PROBE B	Intermediate	8.5	11
SGM-17 PROBE A	Shallow	2.5	5.5

Table 12
Current Landfill Soil Gas Monitoring Well Description

Current Landfill			
Soil Gas Monitoring Well	Screen Location	Top of Screen (Feet BLS)	Bottom Screen (Feet BLS)
SGM-17 PROBE B	Intermediate	8.5	11
SGM-18 PROBE A	Shallow	2.5	7.5
SGM-18 PROBE B	Intermediate	10.5	13.5
SGM-19 PROBE A	Shallow	2.5	7.5
SGM-19 PROBE B	Intermediate	10.5	17

BLS – Below Land Surface

Current Landfill Outpost Wells		
Site ID	Depth to Bottom from top PVC (feet)	PVC Stick Up from Ground (feet)
GSGM-1A	12.00	2.50
GSGM-1B	21.00	2.50
GSGM-1C	29.40	2.50
GSGM-2A	14.25	2.50
GSGM-2B	20.05	2.50
GSGM-2C	27.00	2.50
GSGM-3A	13.91	2.50
GSGM-3B	17.75	2.50
GSGM-4A	11.50	2.50
GSGM-4B	15.20	2.50

Table 12
Former Landfill Soil Gas Monitoring Well Description

Former Landfill			
Soil Gas Monitoring Well	Screen Location	Top of Screen (Feet BLS)	Bottom Screen (Feet BLS)
SGM-1 PROBE A	Shallow	2.5	10
SGM-1 PROBE B	Intermediate	15	43
SGM-2 PROBE A	Shallow	2.5	10
SGM-2 PROBE B	Intermediate	15	40
SGM-3 PROBE A	Shallow	2	9.5
SGM-3 PROBE B	Intermediate	14.5	36
SGM-4 PROBE A	Shallow	2.5	10
SGM-4 PROBE B	Intermediate	15	35.5
SGM-5 PROBE A	Shallow	2.5	10
SGM-5 PROBE B	Intermediate	15	37
SGM-6 PROBE A	Shallow	2.7	10.2
SGM-6 PROBE B	Intermediate	22	37.2
SGM-7 PROBE A	Shallow	2.8	10.3
SGM-7 PROBE B	Intermediate	15	42
SGM-8 PROBE A	Shallow	2.5	10
SGM-8 PROBE B	Intermediate	15	47
SGM-9 PROBE A	Shallow	2.5	10
SGM-9 PROBE B	Intermediate	15	52
SGM-10 PROBE A	Shallow	2.5	10
SGM-10 PROBE B	Intermediate	15	52
SGM-11 PROBE A	Shallow	2.5	10
SGM-11 PROBE B	Intermediate	15	46
SGM-12 PROBE A	Shallow	2.5	10
SGM-12 PROBE B	Intermediate	15	43.5

BLS – Below Land Surface

Table 13 2018 Current Landfill Soil Gas Monitoring Summary

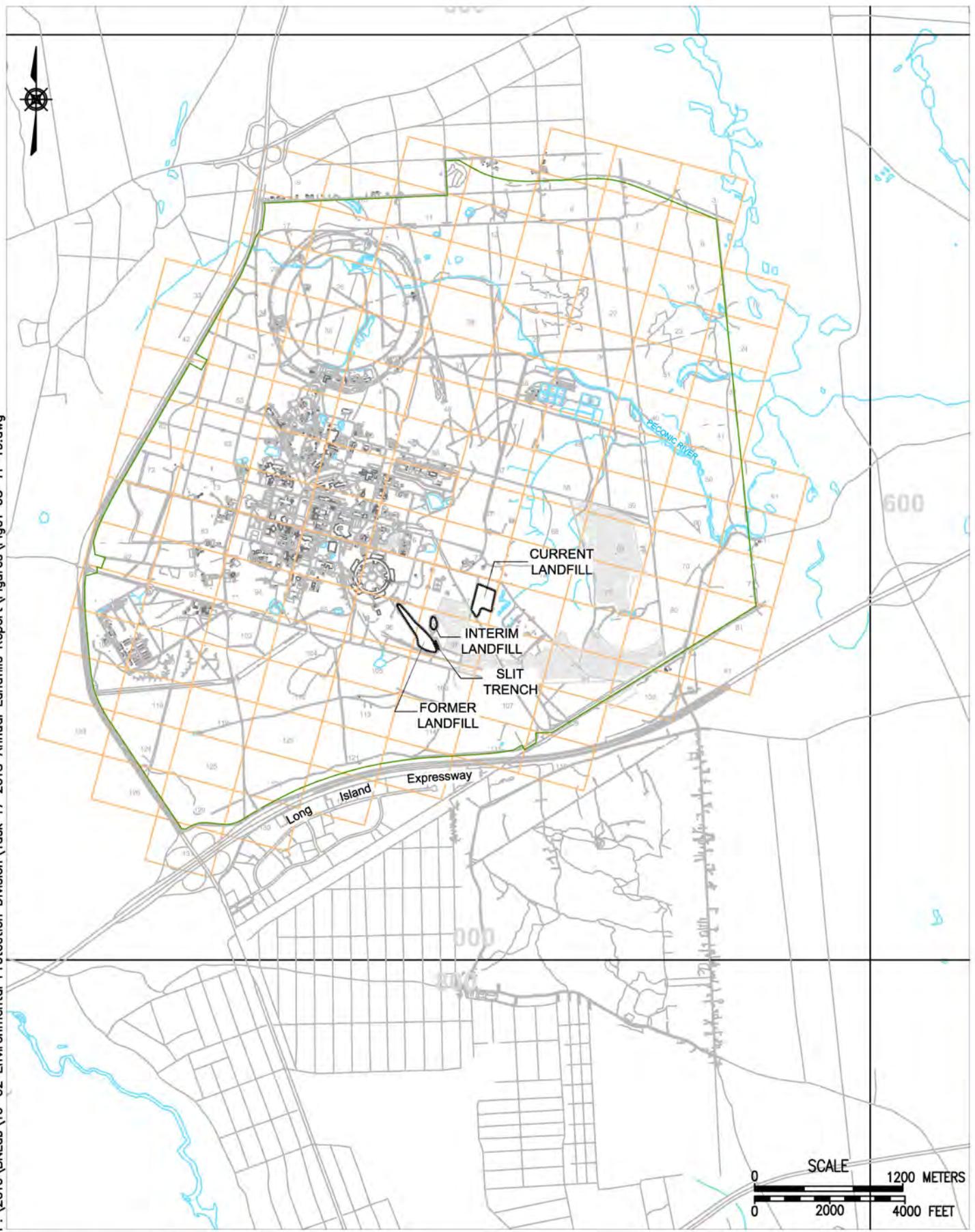
Soil/Gas Monitoring Well	Methane (% By Volume) 3/16/2018	Methane (% By Volume) 6/28/2018	Methane (% By Volume) 9/19/2018	Methane (% By Volume) 12/22/2018	LEL (% By Volume) 3/16/2018	LEL (% By Volume) 6/28/2018	LEL (% By Volume) 9/19/2018	LEL (% By Volume) 12/22/2018	Hydrogen Sulfide (ppm By Volume) 3/16/2018	Hydrogen Sulfide (ppm By Volume) 6/28/2018	Hydrogen Sulfide (ppm By Volume) 9/19/2018	Hydrogen Sulfide (ppm By Volume) 12/22/2018
SGMW-01A	12.6	7.8	9.3	20	>100	>100	>100	>100	7	2	0	13
SGMW-01B	12.6	9.3	8.7	15.7	>100	>100	>100	>100	2	3	0	0
SGMW-01C	11.5	7.6	7.1	10.9	>100	>100	>100	>100	0	1	0	0
SGMW-02A	40.6	35.8	46.9	58.7	>100	>100	>100	>100	0	6	27	0
SGMW-02B	31.8	49.7	54.7	58.8	>100	>100	>100	>100	19	21	32	12
SGMW-02C	50.4	50.1	35.2	19.2	>100	>100	>100	>100	3	4	0	0
SGMW-03A	14.8	52.3	46.1	36.1	>100	>100	>100	>100	1	0	50	3
SGMW-03B	54	52.4	30.3	28.8	>100	>100	>100	>100	38	24	0	0
SGMW-03C	51.9	54.8	0	0.1	>100	>100	0	2	20	22	0	0
SGMW-04A	47.6	43.5	48.2	53.9	>100	>100	>100	>100	2	4	3	0
SGMW-04B	46.3	40.8	29.9	36.5	>100	>100	>100	>100	3	6	0	0
SGMW-04C	43.2	31.7	25.7	0	>100	>100	>100	0	4	6	0	0
SGMW-05A	22.1	29.6	0	0	>100	>100	0	0	0	0	0	0
SGMW-05B	35.9	29.5	24.4	31.8	>100	>100	>100	>100	8	3	0	0
SGMW-05C	30.4	22.7	7.1	16.3	>100	>100	>100	>100	1	1	0	0
SGMW-06A	0	0.2	0	0	0	4	0	0	0	0	0	0
SGMW-06B	33.7	33.7	0	10.8	>100	>100	0	>100	3	4	0	0
SGMW-06C	32.2	29.1	0	26.8	>100	>100	0	>100	3	2	0	0
SGMW-07A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-07B	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-07C	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-08A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-08B	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-08C	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09B	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09C	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-10A	9.5	8.9	21.9	20.2	>100	>100	>100	>100	2	1	18	0
SGMW-10B	13.3	13.8	20	17.2	>100	>100	>100	>100	2	6	1	0
SGMW-10C	11.8	12.5	16	6.8	>100	>100	>100	>100	10	1	0	0
SGMW-11A	10.2	14.9	24.5	21.7	>100	>100	>100	>100	5	16	20	2
SGMW-11B	12.1	13.9	24.4	12.8	>100	>100	>100	>100	0	1	3	0
SGMW-12A	43.9	39.6	45.8	52.9	>100	>100	>100	>100	11	20	32	7
SGMW-12B	30.8	36.1	35.8	16.3	>100	>100	>100	>100	0	0	0	0
SGMW-13A	0.2	18.3	41.1	0	4	>100	>100	0	0	8	0	0
SGMW-13B	35	38.2	42.1	0	>100	>100	>100	0	0	0	0	0
SGMW-14A	16.1	1.2	0	3.8	>100	24	0	76	1	0	0	0
SGMW-14B	16.2	14.6	0	0	>100	>100	0	0	1	4	0	0
SGMW-15A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-15B	33.6	0	11.4	0	>100	0	>100	0	0	0	0	0
SGMW-16A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-16B	0	0	0	0	0	0	0	0	0	0	0	0

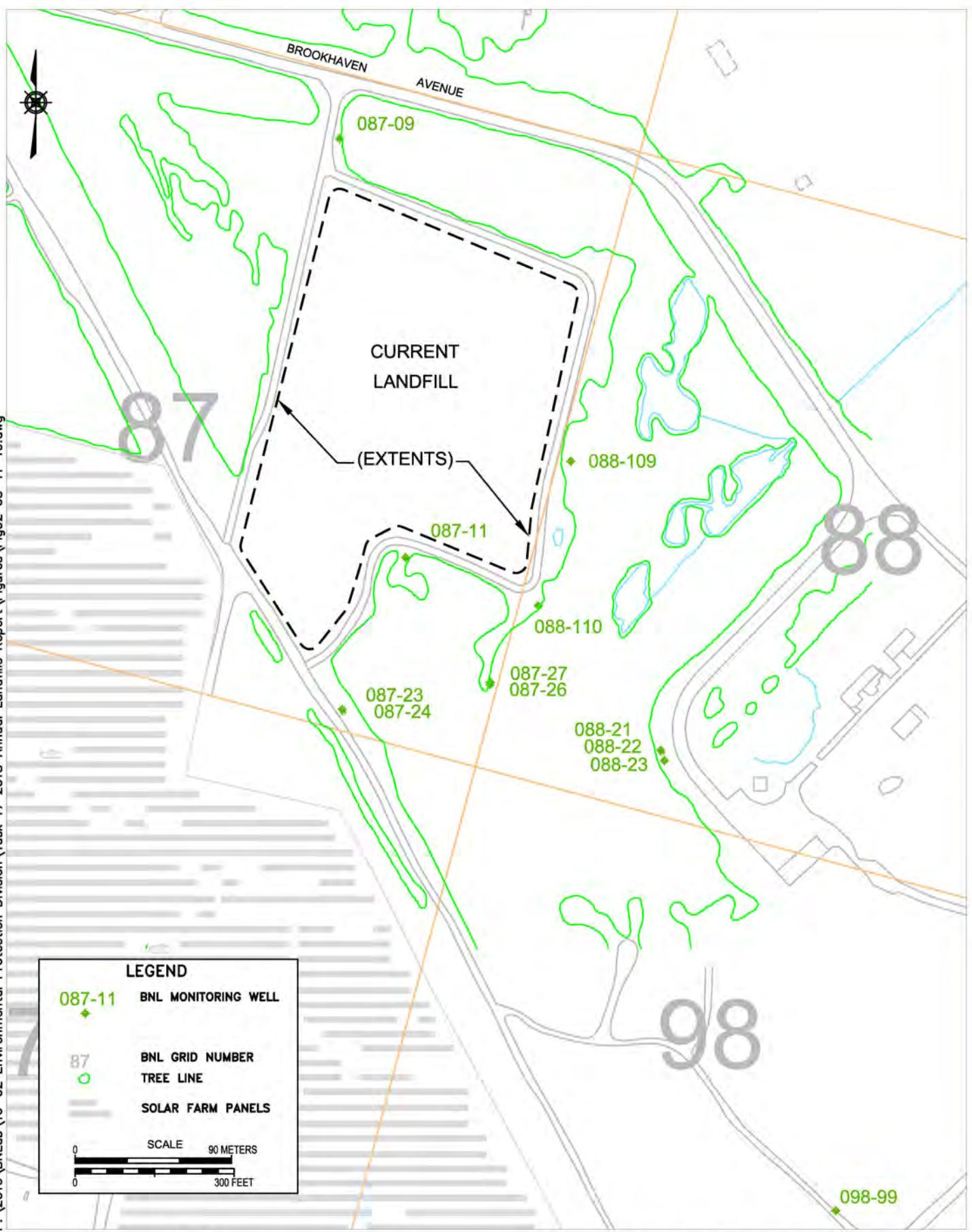
Table 13 2018 Current Landfill Soil Gas Monitoring Summary

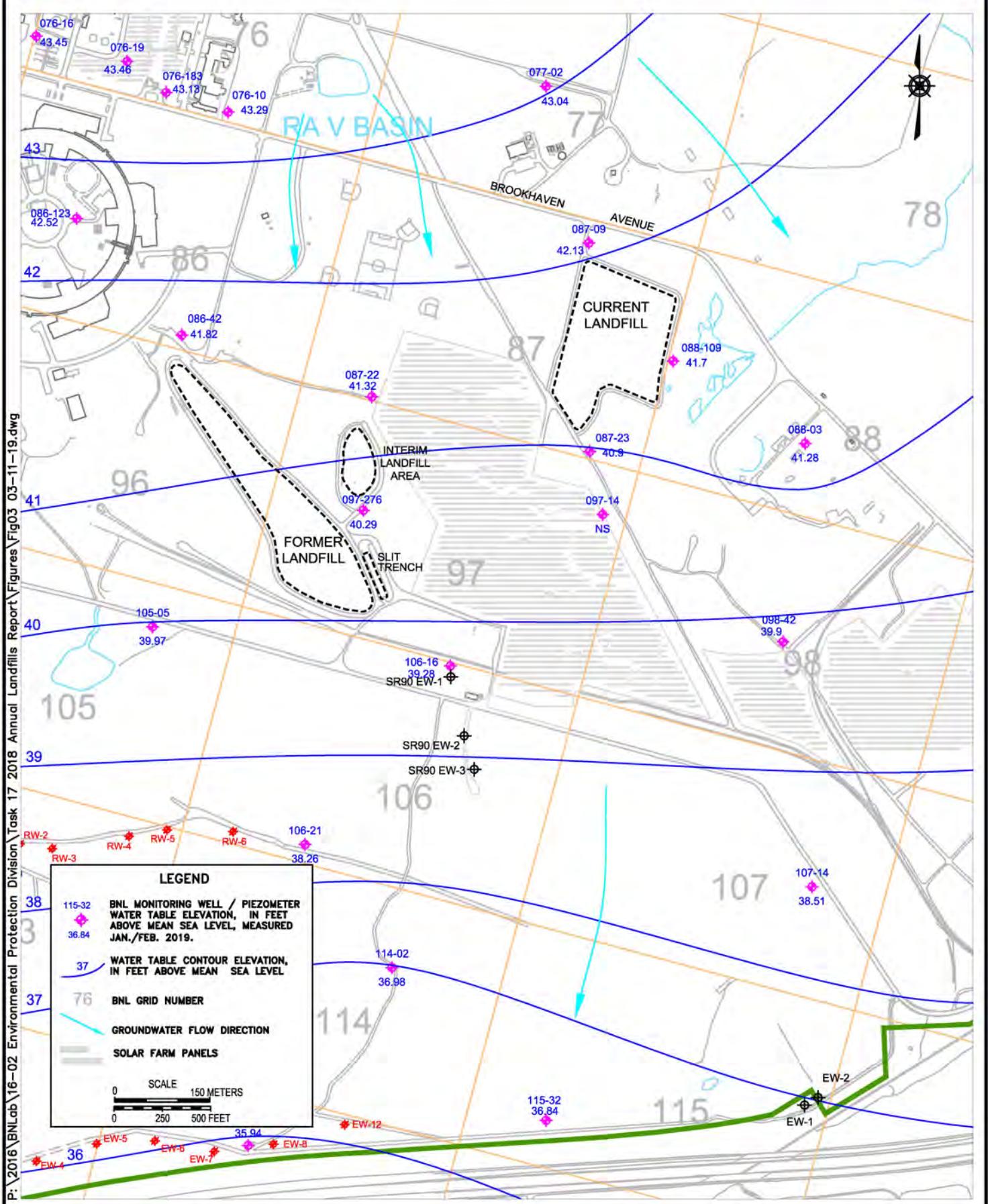
Soil/Gas Monitoring Well	Methane (% By Volume) 3/16/2018	Methane (% By Volume) 6/28/2018	Methane (% By Volume) 9/19/2018	Methane (% By Volume) 12/22/2018	LEL (% By Volume) 3/16/2018	LEL (% By Volume) 6/28/2018	LEL (% By Volume) 9/19/2018	LEL (% By Volume) 12/22/2018	Hydrogen Sulfide (ppm By Volume) 3/16/2018	Hydrogen Sulfide (ppm By Volume) 6/28/2018	Hydrogen Sulfide (ppm By Volume) 9/19/2018	Hydrogen Sulfide (ppm By Volume) 12/22/2018
SGMW-17A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-17B	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-18A	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-18B	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-19A	13.6	8.9	13.1	15.4	>100	>100	>100	>100	12	8	27	0
SGMW-19B	0	17.7	0	0	0	>100	0	0	0	0	0	0
GSGM-1A	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-1B	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-1C	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-2A	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-2B	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-2C	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-3A	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-3B	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-4A	0	0	0	0	0	0	0	0	0	0	0	0
GSGM-4B	0	0	0	0	0	0	0	0	0	0	0	0

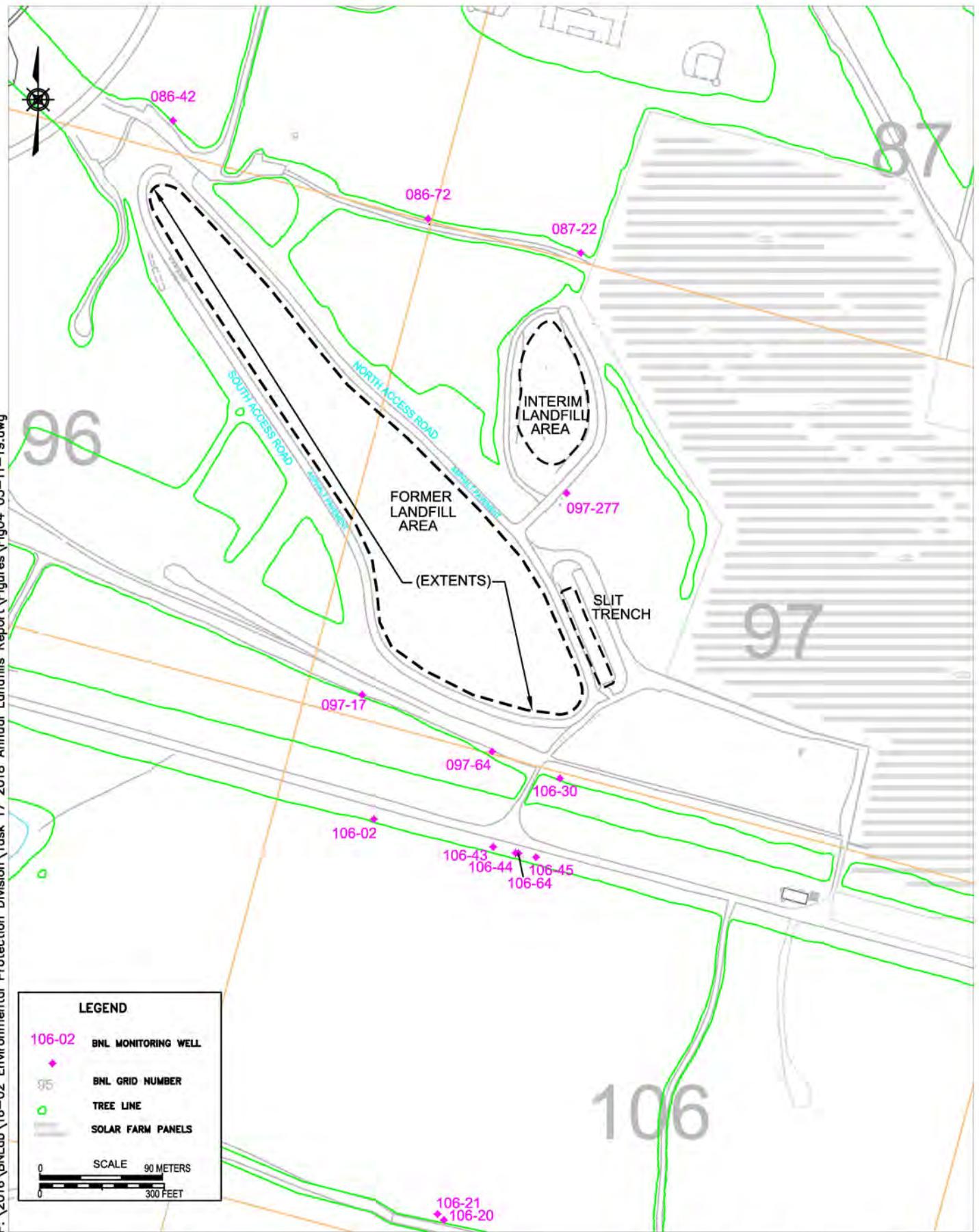
Table 14
2018 Former Landfill Soil-Gas Monitoring Summary Table

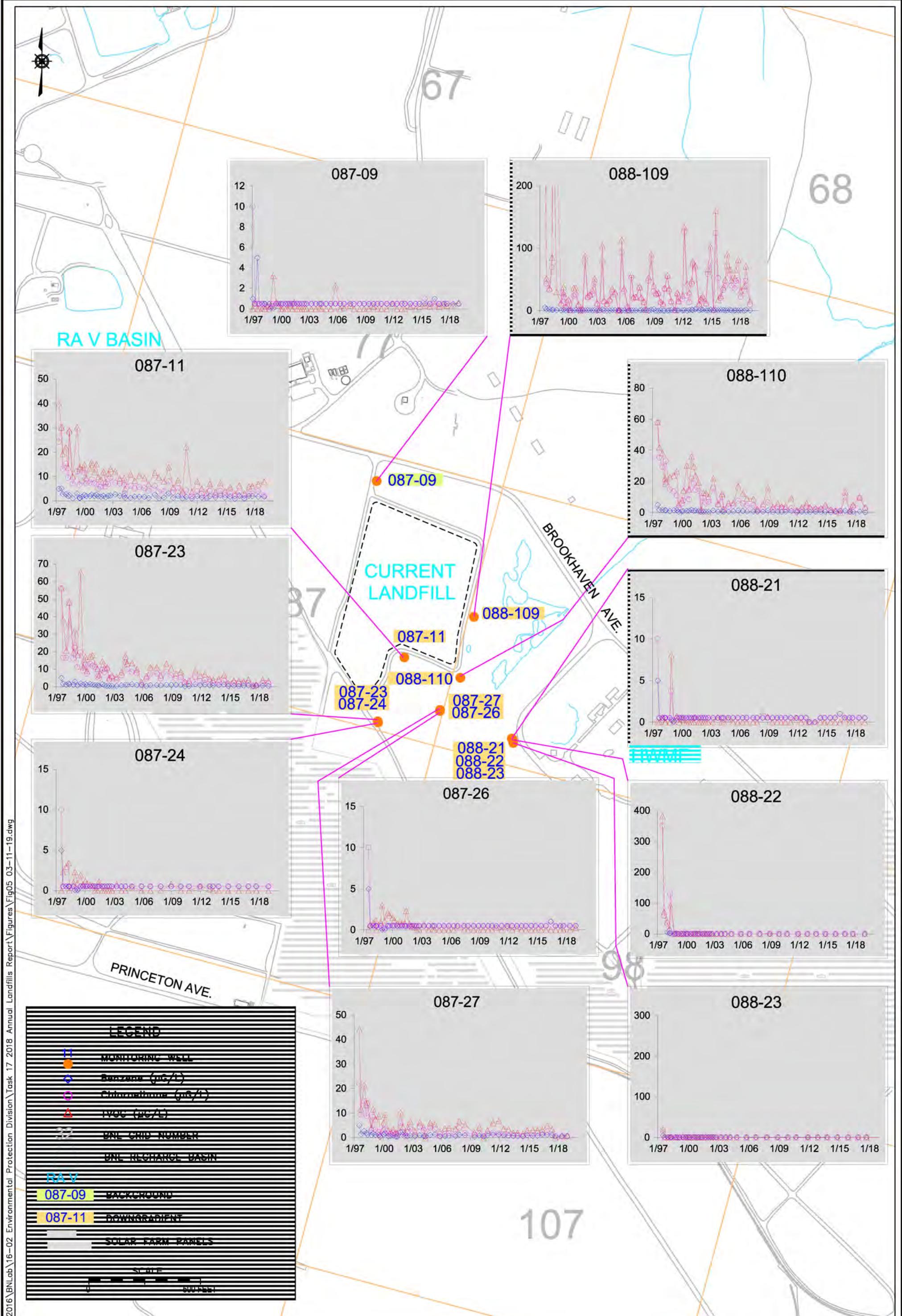
Soil Gas Monitoring Well	Methane (% By Volume) 8/16/2018	LEL (% By Volume) 8/16/2018	Hydrogen Sulfide (ppm by volume) 8/16/2018
SGM-01A	0	0	0
SGM-01B	0	0	0
SGM-02A	0	0	0
SGM-02B	0	0	0
SGM-03A	0	0	0
SGM-03B	0	0	0
SGM-04A	0	0	0
SGM-04B	0	0	0
SGM-05A	0	0	0
SGM-05B	0	0	0
SGM-06A	0	0	0
SGM-06B	0	0	0
SGM-07A	0	0	0
SGM-07B	0	0	0
SGM-08A	0	0	0
SGM-08B	0	0	0
SGM-09A	0	0	0
SGM-09B	0	0	0
SGM-10A	0	0	0
SGM-10B	0	0	0
SGM-11A	0	0	0
SGM-11B	0	0	0
SGM-12A	0	0	0
SGM-12B	0	0	0

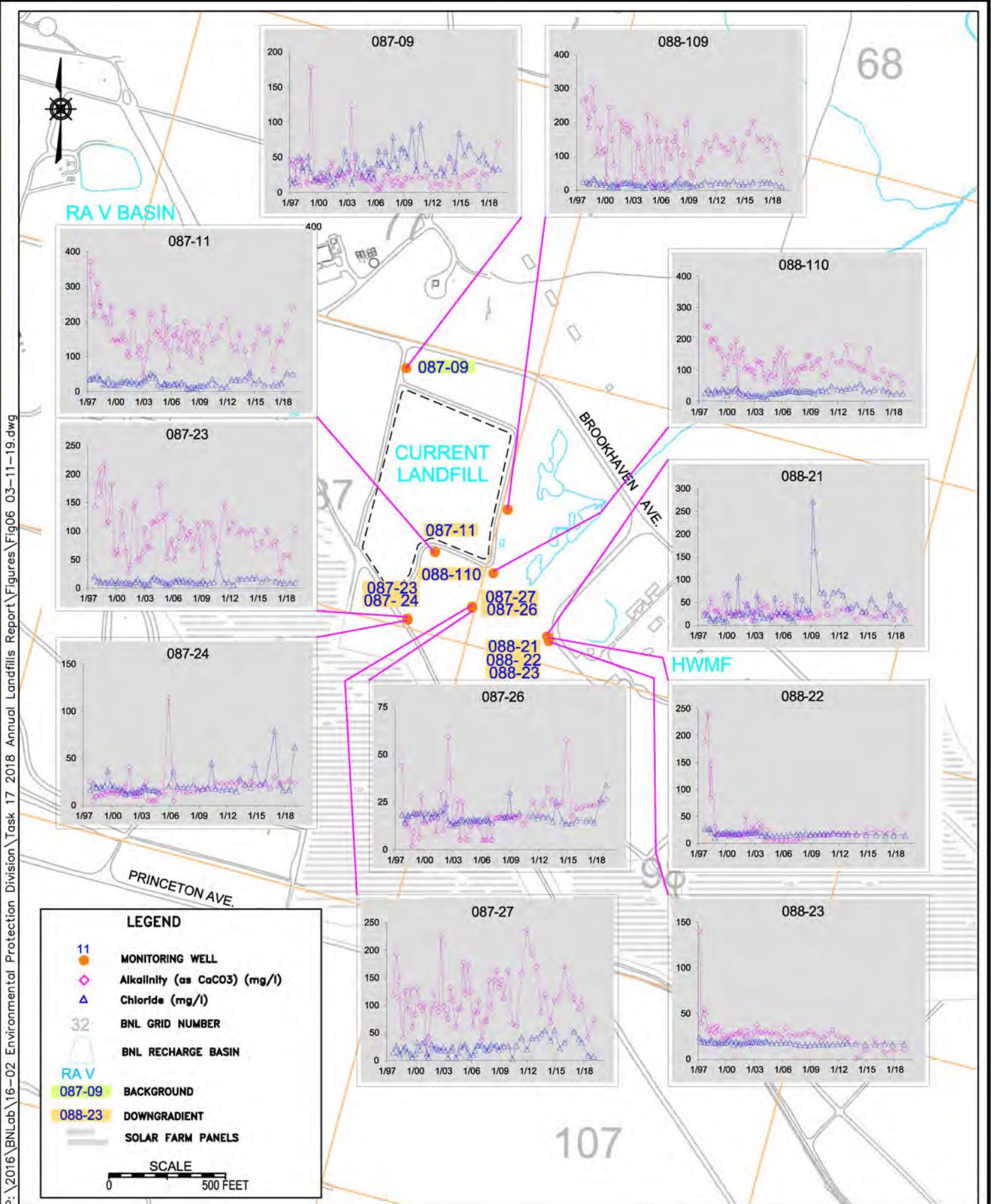


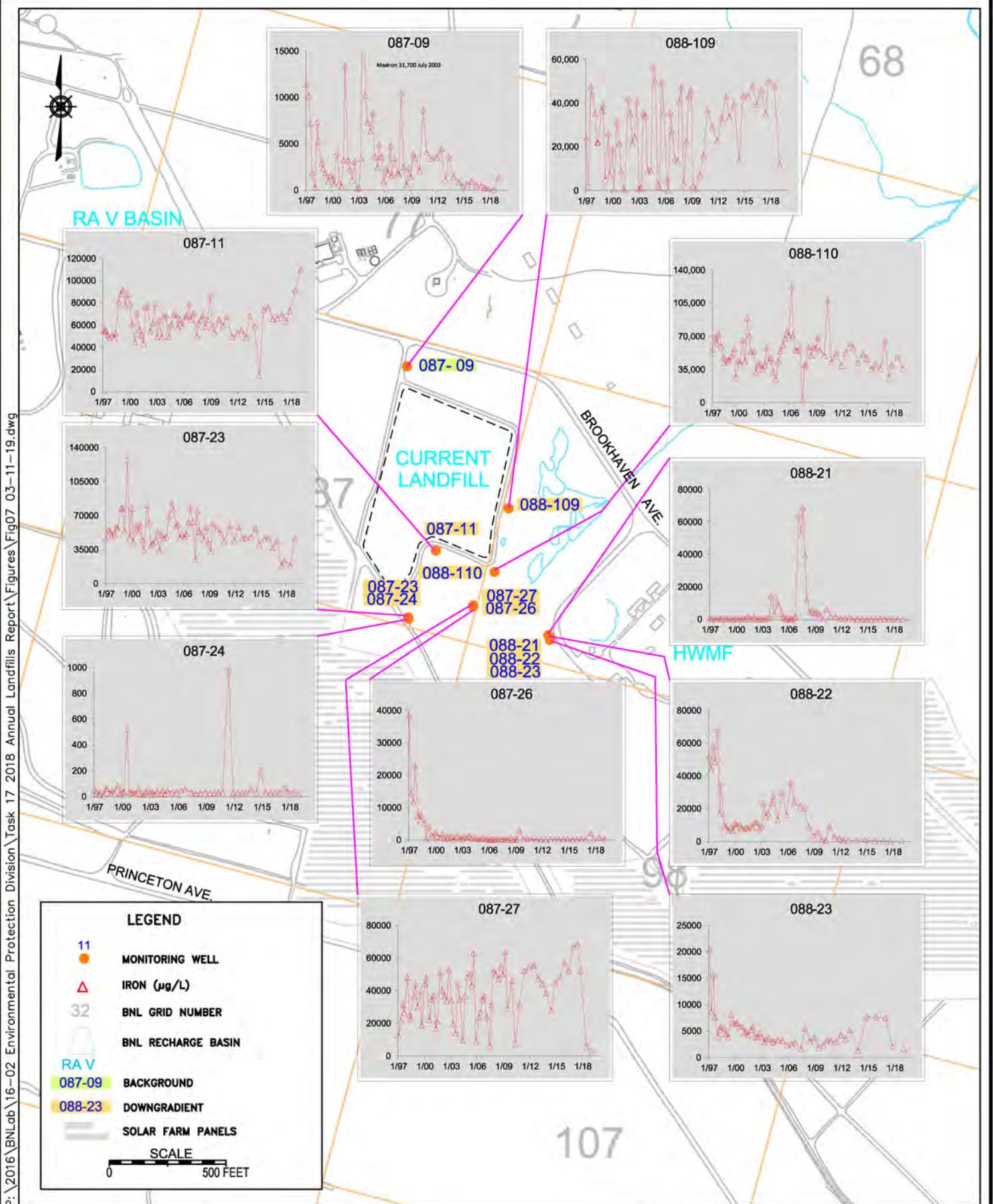


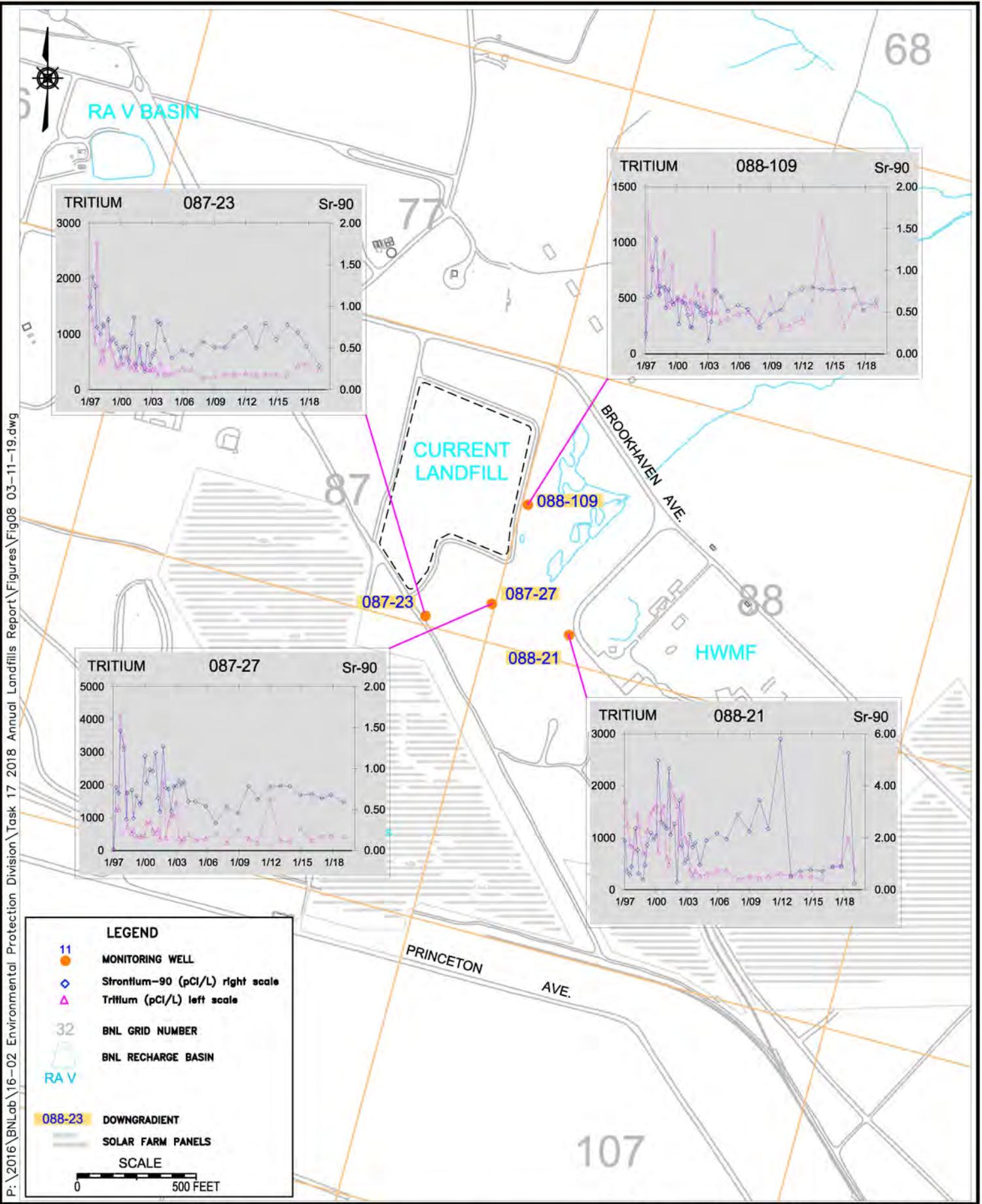






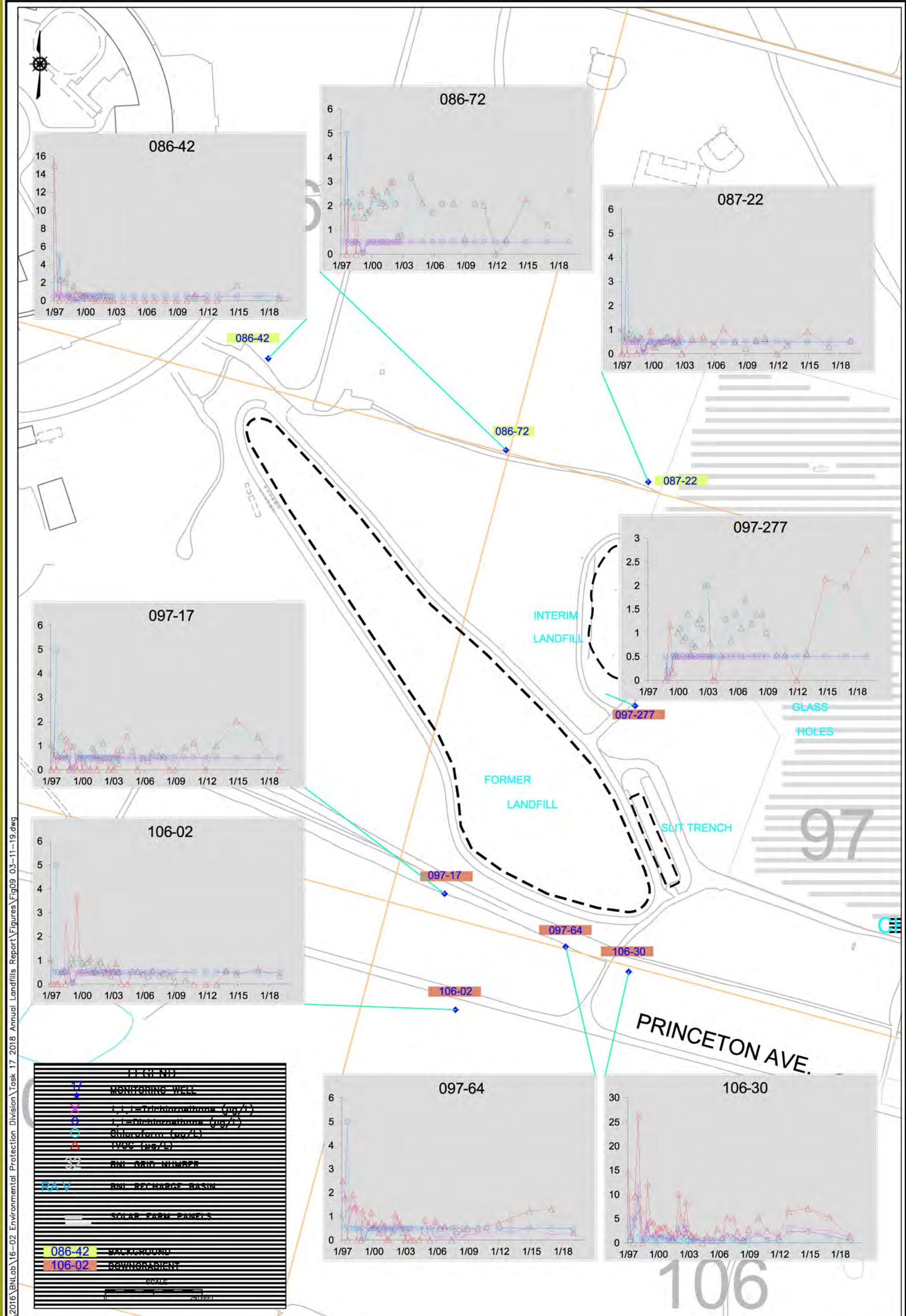


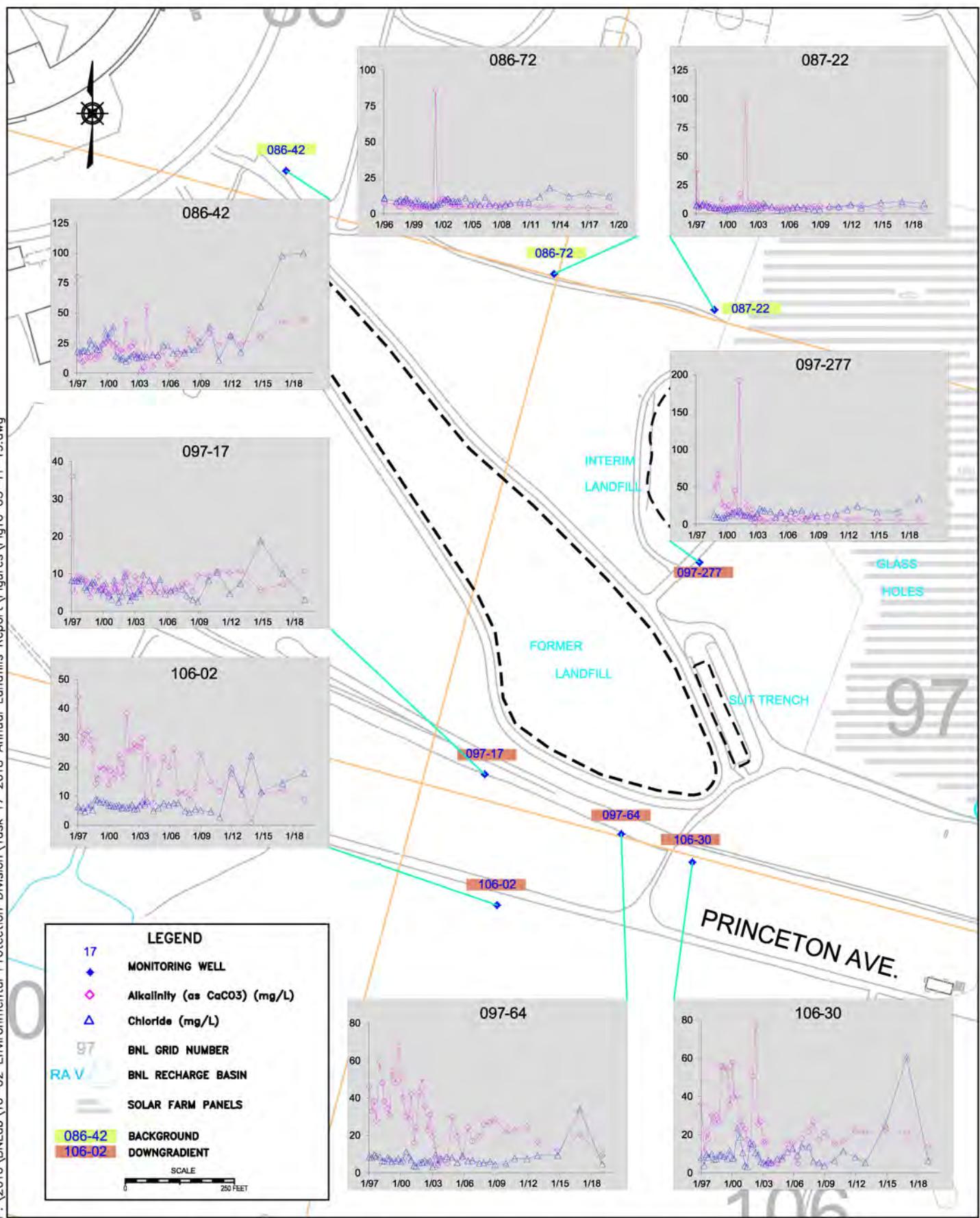


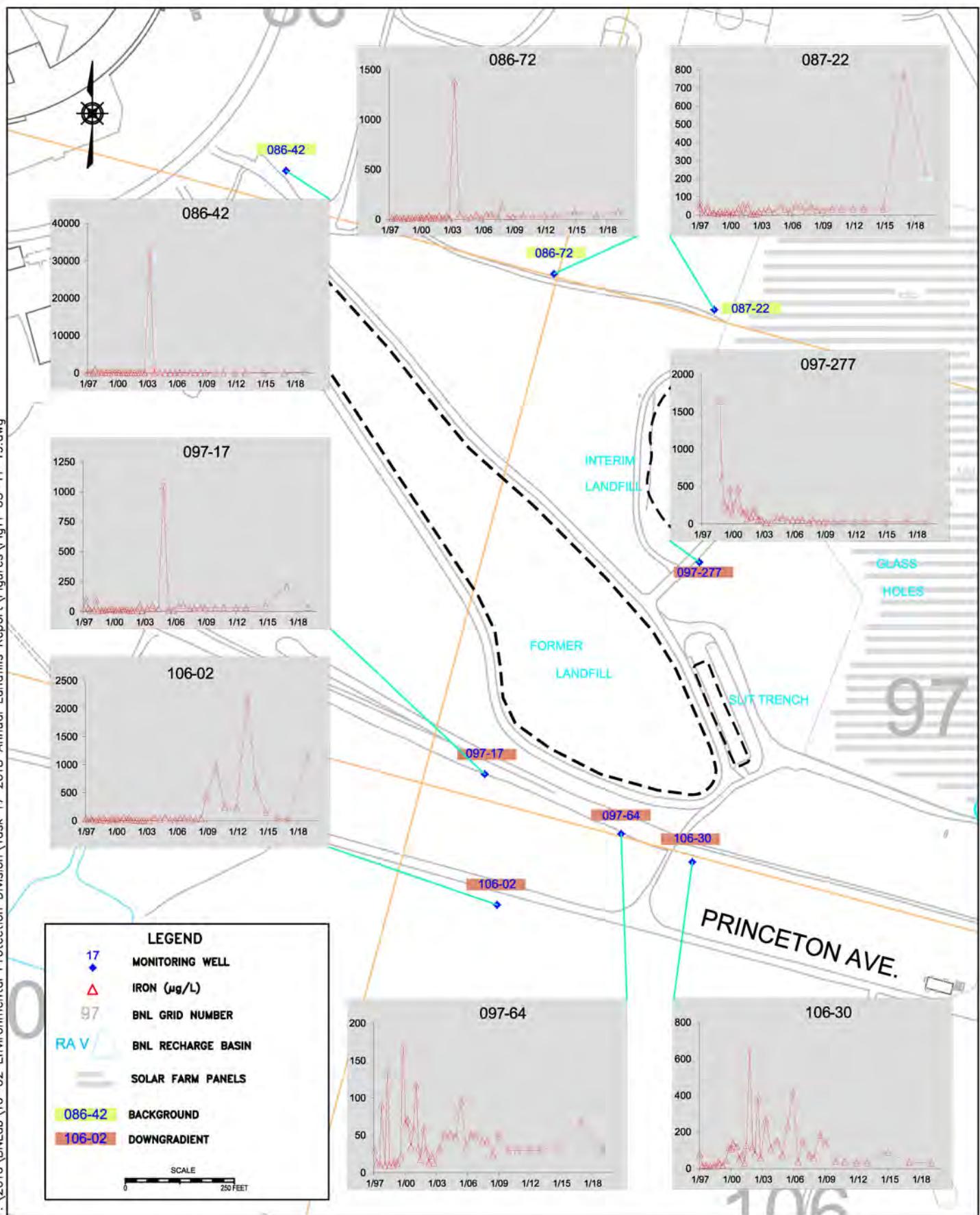


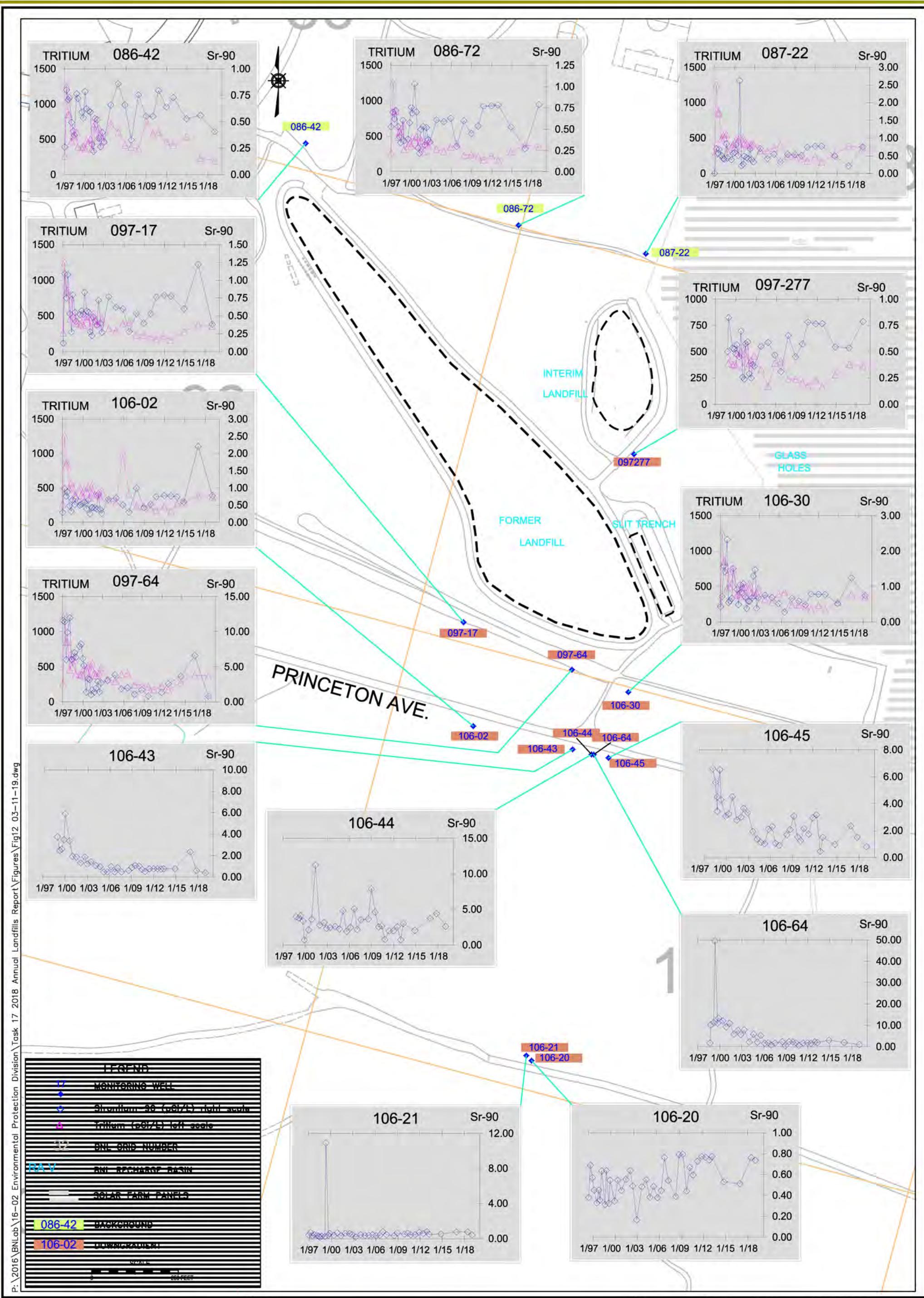
TITLE:
CURRENT LANDFILL TRITIUM
AND STRONTIUM-90 TREND PLOTS
2018 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

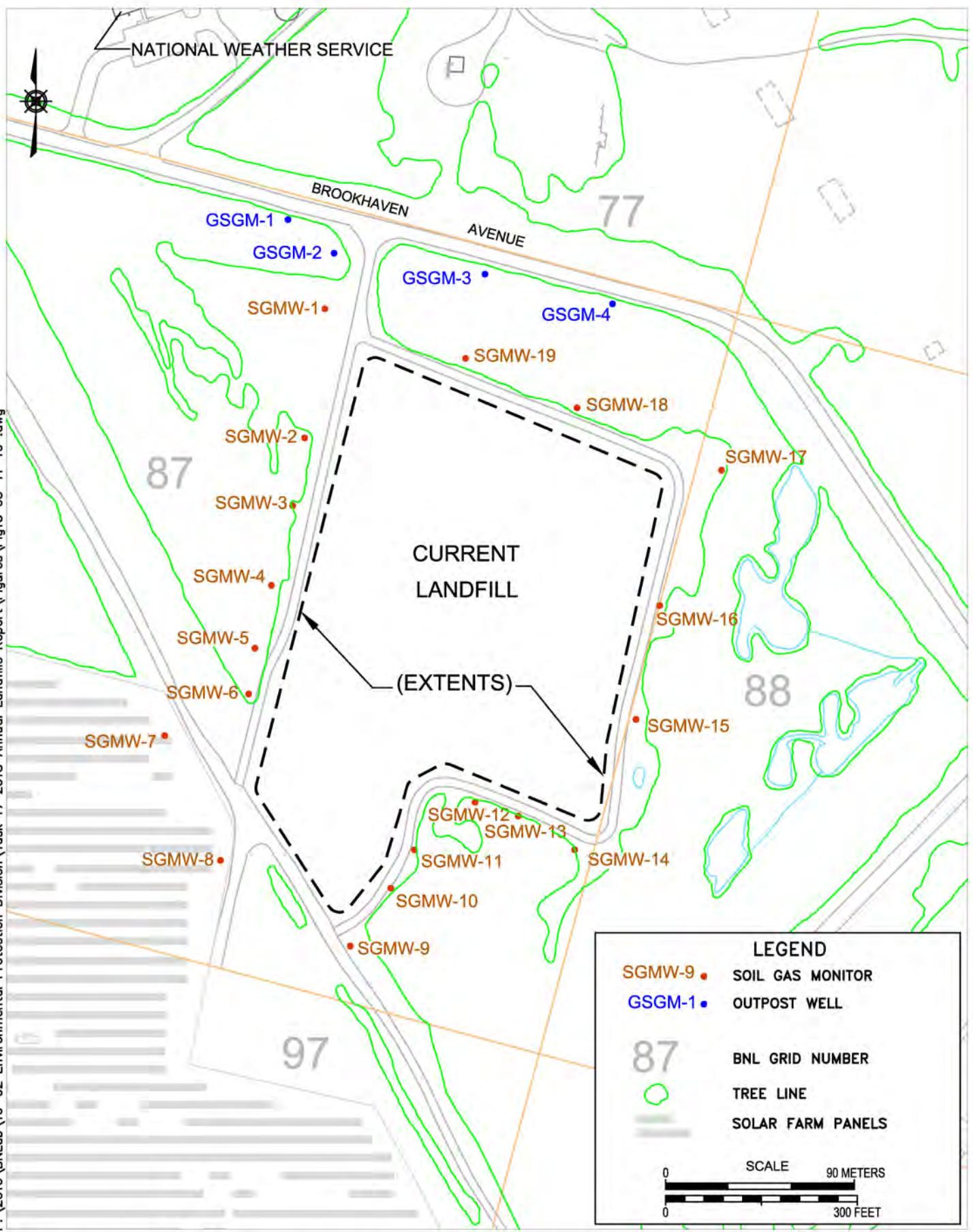
DWN: AJZ	VT: HZ.: -	DATE: 03/11/19	PROJECT NO.: -
CHKD: WRD	APPD: RFH	REV.: -	NOTES: -
FIGURE NO.:			8

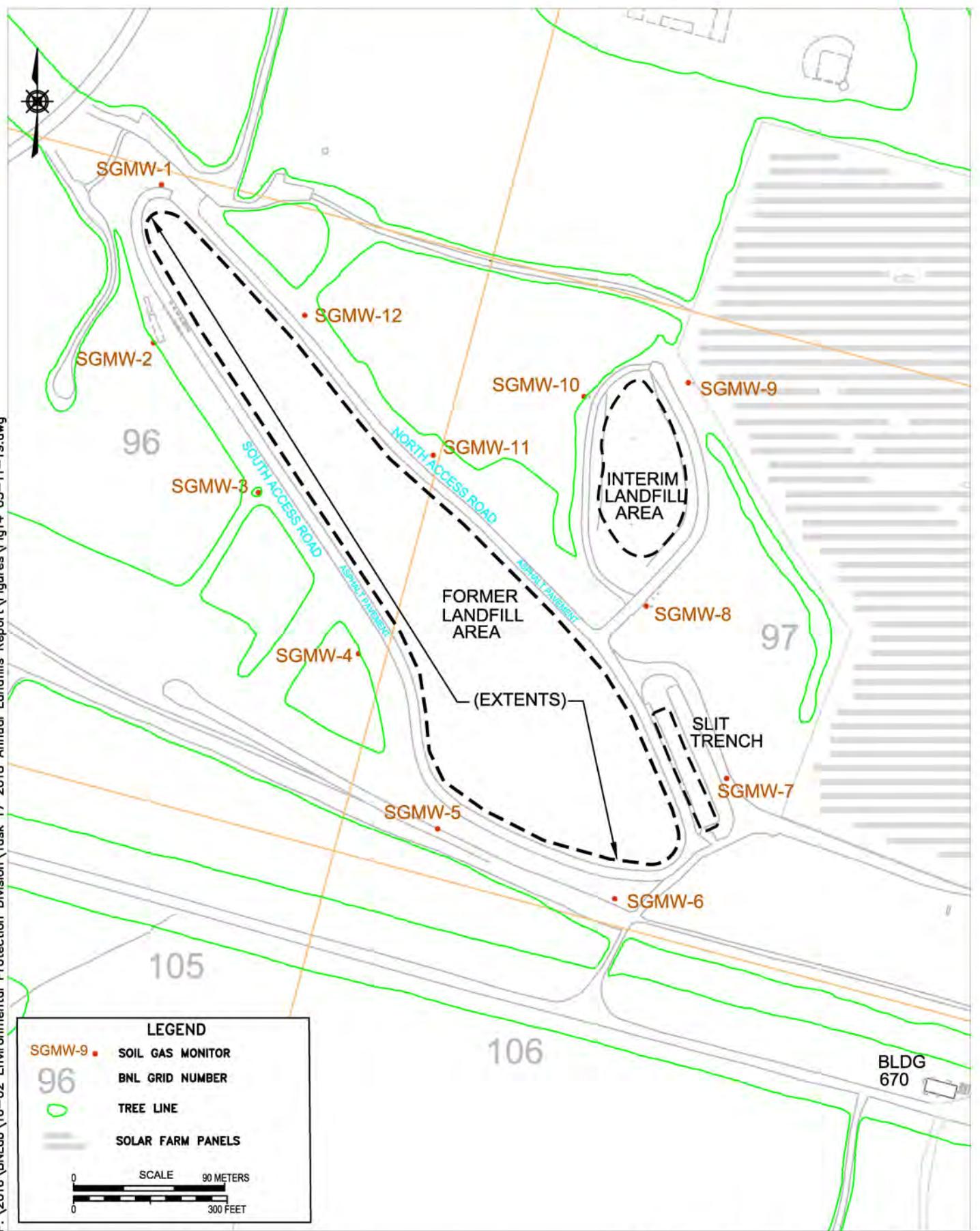












Appendix A

Soil-gas Sampling Field Notes

(132)

3/18/18 Curt Lumber @ 33° 29.48 "Hz
CH4% LBL%

Location	Well ID	CH4%	LBL%	H ₂ S	Comments/Time
SGM - 1A	087-62	12.6	>100 282	7	0920
1B	087-78	12.6	>100 282	2	0926
1C	087-79	11.5	>100 280	0	0936
2A	087-63	40.6	>100 812	0	0944
2B	087-80	31.8	>100 636	19	0950
2C	087-81	50.4	>100 1082	3	1000
3A	087-64	14.8	>100 296	1	1004
3B	087-82	54.0	>100 1082	38	1010
3C	087-83	51.9	>100 1038	20	1019
4A	087-65	47.6	>100 952	2	1023
4B	087-84	46.3	>100 926	3	1029
4C	087-85	43.2	>100 864	4	1035
5A	087-66	22.1	>100 442	0	1042
5B	087-86	35.9	>100 718	8	1048
5C	087-87	30.4	>100 608	1	1110
6A	087-67	0	0	0	1014
6B	087-88	33.7	>100 674	3	1020
6C	087-89	32.2	>100 644	3	1135
7A	087-68	0	0	0	1305
7B	087-90	0	0	0	1310
7C	087-91	0	0	0	1320
8A	087-69	0	0	0	1330
8B	087-92	0	0	0	1337
8C	087-93	0	0	0	1347

3/18/18 - 3/19 Curt Lumber cur.

Location	Well ID	CH4%	LBL%	H ₂ S	Comments
SGM	9A	0	0	0	1353
9B	087-94	0	0	0	1400
9C	087-95	0	0	0	1410
10A	087-71	9.5	>100 140	2	1415
10B	087-98	13.3	>100 266	2	1423
10C	087-97	11.8	>100 232	10	1435
11A	087-72	10.2	>100 204	5	1443
11B	087-98	12.1	>100 242	0	1450
12A	087-73	43.9	>100 878	11	1458
12B	087-99	30.8	>100 616	0	1505
13A	087-74	0.2	>100 %	0	1510
13B	087-700	35.0	>100 700	0	1517
14A	087-75	16.1	>100 822	1	1525
14B	087-107	16.2	>100 824	1	1535
15A	088-111	0.0	0	0	water in pipe 1540
15B	088-114	33.6	>100 672	39	1548
16A	088-112	0	0	0	0920
16B	088-115	0	0	0	water 0928
17A	088-113	0	0	0	water 0935
17B	088-116	0	0	0	water 0945
18A	087-76	0	0	0	0952
18B	087-102	0	0	0	water 0958
19A	087-97	13.6	>100 272	12	1009
19B	087-103	0	0	0	1020

(133)

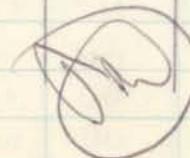
(134)

3/16/18

Current Level

35° Free air

Locn	WULIN	CH 4%	LBC %	Temp	Constitue
658m 1A	No 2D	0	0	0	1030
1B		0	0	0	1036
1C		0	0	0	1046
2A		0	0	0	1052
2B		0	0	0	1059
2C		0	0	0	1108
3A		0	0	0	1115
3B		0	0	0	1125
4A		0	0	0	1135
4B	↓	0	0	0	1148



Locn	WELL#	3/10/18 Current Level		Hr	35° Pumping on 6/27/18		Current Level		Hr	35° Pumping 30.03 H) (135)	
		CH4%	LBC%		Level	WELL#	CH4%	LBC%		30.03 H)	(135)
686m	1A	No ID	0	0	0	1030	8Gm	1/4	087-62	7.8	0950
	1B		0	0	0	1036	1B		087-78	9.3	0938
	1C		0	0	0	1046	1C		087-79	7.6	0948
	2A		0	0	0	1052	2A		087-63	35.8	0955
	2B		0	0	0	1059	2B		087-80	49.7	1010
	2C		0	0	0	1108	2C		087-81	50.1	1020
	3A		0	0	0	1115	3A		087-64	52.3	1025
	3B		0	0	0	1125	3B		087-82	52.4	1035
	4A		0	0	0	1135	3C		087-83	54.8	1045
	4B		0	0	0	1148	4A		087-65	43.5	1050
							4B		087-84	40.8	1055
							4C		087-85	31.7	115
							5A		087-66	29.6	1109
							5B		087-86	29.6	1115
							5C		087-87	22.7	1135
							6A		087-67	0.2	1305
							6B		087-88	33.7	1315
							6C		087-89	29.1	1320
							7A		087-68	0	0935
							7B		087-90	0	0943
							7C		087-91	0	0953
							8A		087-69	0	1000
							8B		087-92	0	1016
							8C		087-93	0	1016

6/27/18 6/28 Current weight				in	6/28/18 25.75" Hg Rain in AM				in		
(136)	wt	CH4%	LW%	H2S		Location	W.M.E.	CH4%	LW%	H2S	
86A 087-70	0	0	0	1400		660m 1A	noth	0	0	0	1150
9B 087-94	0	0	0	1405		1B		0	0	0	1156
9C 087-95	0	0	0	1419		1C		0	0	0	1216
10A 087-71	8.7	2100	178	1	1425	2A		0	0	0	1305
10B 087-96	13.8	2100	276	6	1430	2B		0	0	0	1310
10C 087-97	12.5	2100	250	1	1430	2C		0	0	0	1315
11A 087-72	14.9	2100	298	16	1450	3A		0	0	0	1322
11B 087-88	13.9	2100		1	1458 6/20	3B		0	0	0	1330
12A 07-73	39.6	2100	792	20	1508	4A		0	0	0	1338
12B 087-99	36.1	2100	722	0	1518	4B		0	0	0	1348
13A 087-74	18.3	2100	366	8	1525						
13B 087-100	38.2	2100	764	0	1540						
14A 087-75	1.2	25	0		1348						
14B 087-101	14.6	2100	292	4	1356						
15A 088-111	0	0	0		1033						
15B 088-114	0	0	0		1041						
16A 088-112	0	0	0		1048						
16B 088-115	0	0	0		1055						
17A 088-113	0	0	0		1106 6/28						
17B 088-116	0	0	0		1113						
18A 087-76	0	0	0		1118						
18B 087-102	0	0	0		128wtr						
19A 087-77	8.9	2100	178	8	1135						
19B 087-103	12.7	2100	354	0	145						

6/28/18

Cwl ID	Current Landfill			75° Cw	9/14/18	Current Landfill			8M
	CH4 %	LFL %	H2S			Cwl ID	CH4 %	LFL %	
1A	087-62	9.3	2100 186	11	0822	SGN	087-70	0	0
1B	087-78	8.7	2100 174	0	0829	9A	087-94	0	0
1C	087-79	7.1	2100 142	0	0839	9C	087-95	0	0
2A	087-63	46.9	2100 938	27	0846	10A	087-71	21.9	2100 428
2B	087-80	54.7	2100 1094	32	0855	10B	087-96	20.0	2100 400
2C	087-81	35.2	2100 704	0	0943	10C	087-97	16.0	2100 320
3A	087-64	46.1	2100 922	50	0908	11A	087-72	24.5	2100 910
3B	087-82	30.3	2100 606	0	0918	11B	087-98	24.4	2100 487
3C	087-83	0	0	0	0930	12A	087-73	45.8	2100 916
4A	087-45	48.2	2100 964	3	0934	12B	087-99	35.8	2100 716
4B	087-84	24.9	2100 598	0	0943	13A	087-74	41.1	2100 822
4C	087-35	25.7	2100 514	0	0945	13B	087-100	42.1	2100 842
5A	087-46	0	0	0	0955	14A	087-75	0	0
5B	087-86	24.4	2100 498	0	1010	14B	087-101	0	0
5C	087-87	21.1	2100 142	0	1020	15A	088-111	0	0
6A	087-67	0	0	0	1023	15B	088-114	11.4	2010 228
6B	087-88	0	0	0	1032	16A	088-112	0	0
6C	087-89	0	0	0	1043	16B	088-115	0	0
7A	087-68	0	0	0	0905	17A	088-113	0	0
7B	087-90	0	0	0	0911	17B	088-116	0	0
7C	087-91	0	0	0	0921	18A	087-76	0	0
8A	087-69	0	0	0	0930	18B	087-102	0	0
8B	087-92	0	0	0	0938	19A	087-77	13.1	2100 27
8C	087-93	0	0	0	0941	19B	087-103	0	0

9/21/18

(139)

Row	Col	CH ₄ %	LEL%	H ₂ S	9/20/11 Comments/From
1A	No ID	0	0	0	1115
1B		0	0	0	1108
1C		0	0	0	1057
2A		0	0	0	1047
2B		0	0	0	1037
2C		0	0	0	1028
3A		0	0	0	1015
3B		0	0	0	1005
4A		0	0	0	1525
4B	✓	0	0	0	1520

9/20/11

D

9/20/11

		<u>SL</u>	9/19/17	9/20/17	Comments/Issues
(140)	Location	Well ID	CH4 %	LEL %	H2S
Section 1A	AV 3D		0	6	0
1B			0	0	0
1C			8	0	0
2A			0	0	0
2B			0	0	0
2C			0	0	0
3A			0	0	0
3B			0	0	0
4A			0	0	0
4B			0	0	0

(145) Cuts & RC		Current Land Per			60° 80% 954 AB H2S	11/22/18
Location	Well ID	CH4 %	LEL %	H2S	Comments/Issues	
2A	087-62	20.0	>100 466	13	0905	
1B	087-78	15.7	>100 314	0	0912	
1C	087-79	10.9	>100 218	0	0928	
2A	087-63	58.7	>100 1174	0	0236	
2B	087-82	58.8	>100 1176	12	0742	
2C	087-81	19.2	>100 384	0	0950	
3A	087-64	36.1	>100 722	3	0953	
3B	087-82	28.8	>100 576	0	0959	
3C	087-83	0.1	>100 2	0	1015	
4A	087-65	53.9	>100 1070	0	1019	
4B	087-84	36.5	>100 730	0	1024	
4C	087-85	0	0	0	1034	
5A	087-66	0	0	0	1040	
5B	087-86	31.8	>100 636	0	1046	
5C	087-87	16.3	>100 326	0	1056	
6A	087-67	0	0	0	1000	
6B	087-88	10.8	>100 216	2	1106	
6C	087-89	26.8	>100 536	0	1118	
7A	087-68	0	0	0	1105	
7B	087-90	0	0	0	1112	
7C	087-91	0	0	0	1123	
8A	087-69	0	0	0	1128	
8B	087-92	0	0	0	1134	
8C	087-93	0	0	0	1144	

9/20/18

9/20/18

(146)

12/27/11

59

Locn	WEN/SH	CH4%	L2E%	H2	Comments
9A	087-70	0	0	0	1115
9B	087-94	0	0	0	1118
9C	087-95	0	0	0	1128
10A	087-71	20.2	2100 ⁴⁴	0	1138
10B	087-96	17.2	2100 ²⁴⁴	0	1145
10C	087-97	6.8	2100 ¹³⁶	0	1156
11A	087-72	21.7	2100 ⁴³⁴	2	1202
11B	087-98	12.8	2100 ²⁵⁶	0	1208
12A	087-73	52.9	2100 ¹⁰⁵⁸	7	1218
12B	087-99	16.8	2100 ³²⁶	0	1224
13A	087-74	0	0	0	1230
13B	087-101	0	0	0	1240
14A	087-75	3.3	69%	0	1244
14B	087-102	0	0	0	1250
15A	088-111	0	0	0	1256
15B	088-114	0	0	0	1306
16A	088-112	0	0	0	1316 w.hv.
16B	088-118	0	0	0	1324 w.hv.
17A	088-113	0	0	0	1330 w.hv.
17B	088-116	0	0	0	1338 w.hv.
18A	087-76	0	0	0	1350 w.hv.
18B	087-102	0	0	0	1400 w.hv.
19A	087-72	15.4	210	0	1406
19B	087-103	0	0	0	1415

38° SW
1036 m
50%

Current Water

CH4% L2E%

Locn	WEN/SH	CH4%	L2E%	H2S	Comments
G56M 1A	No 3D	0	0	0	0905
1B		0	0	0	0912
1C		0	0	0	0922
2A		0	0	0	0926
2B		0	0	0	0930
2C		0	0	0	0940
3A		0	0	0	0946
3B		0	0	0	0956
4A		0	0	0	1005
4B		0	0	0	1015

D

12/27/11

Appendix B

Monthly Landfill Site Inspection Forms

**BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM**

Name of Inspector(s):

Eric Kramer

Date of Inspection:

Purpose of Inspection:

Time on Site:

Time off Site:

Weather Conditions:

1-29-18

Routine Heavy Rainfall Reported Incident

A. Inspection Checklist

Component	Observed Condition			Further Action Required	
	Excellent	Fair	Poor	Yes	No
1.0 Landfill Cap: Vegetation Cap Gas Vents	/				/
					/
					/
					/
2.0 Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	/				/
	/				/
	/				/
	/				/
	/				/
	/				/
	/				/
3.0 Monitoring System: Soil Gas Wells Groundwater Wells	/				/
	/				/
	/				/
	/				/
4.0 Site Access: Asphalt Access Road Crushed-Concrete Access Road	/				/
	/				/
	/				/
	/				/

B. Description of Further Action Requirements:

1. Location:

All OK

Observed Conditions:

Recommendations:

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 2-26-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	/				/
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	/				/
	Monitoring System: Soil Gas Wells Groundwater Wells	/				/
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	/				/

B. Description of Further Action Requirements:

1. Location: _____

Observed Conditions: Everything OK

Recommendations: _____

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 3-29-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	/				/
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	/				/
	Monitoring System: Soil Gas Wells Groundwater Wells	/				/
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	/				/

b. Description of Further Action Requirements:

Location: _____

Observed Conditions: All OK

Recommendations: _____

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 9-26-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site: _____

Time off Site: _____

Weather Conditions: _____

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	✓				✓
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	✓ ✓ ✓ ✓ ✓				✓ ✓ ✓ ✓
	Monitoring System: Soil Gas Wells Groundwater Wells	✓				✓
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	✓				✓

Description of Further Action Requirements:

Location: _____

Observed Conditions: All OK. Some vegetation starting to grow.

Recommendations: _____

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 5-21-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

1.0	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
	Landfill Cap:		X		X	X
	Vegetation	X				X
	Cap	X				X
	Gas Vents					X
2.0	Drainage Structures:	X	X		X	X
	Toe Drain					
	Drainage Channels					
	French Drains/Outfalls	X				
	Subsurface Drainage Pipes/Outfalls	X				
	Manholes	X				
	Recharge Areas	X				X
	Monitoring System:					
	Soil Gas Wells	X				
	Groundwater Wells	X				X
3.0	Site Access:		X		X	
	Asphalt Access Road					
	Crushed-Concrete Access Road	X				X

Description of Further Action Requirements:

Location: Landfill, Drainage channels, Road

Observed Conditions:

Some excess vegetation

Recommendations: Contact Ground

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 6-27-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

1.0	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
	Landfill Cap:		X		X	X
	Vegetation					
	Cap					
	Gas Vents					
2.0	Drainage Structures:	X	X		X	X
	Toe Drain					
	Drainage Channels					
	French Drains/Outfalls	X				
	Subsurface Drainage Pipes/Outfalls	X				
	Manholes	X				
	Recharge Areas	X				
	Monitoring System:					
	Soil Gas Wells	X				
	Groundwater Wells	X				
4.0	Site Access:					
	Asphalt Access Road		X		X	
	Crushed-Concrete Access Road	X				X

Description of Further Action Requirements:

Location: Landfill, Drainage Channels, Edges, Roads
 Observed Conditions: Excess vegetation growth

Recommendations:

SENT E-Mail to Grounds to address issues

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 7-25-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X	X		X	X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X	X		X	X
		X			X	X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	X				X
		X				X
	Site Access: Asphalt Access Road Crushed-Concrete Access Road		X		X	X
		X				

Description of Further Action Requirements:

Location: Landfill, Drainage Channels, Edges, Roads.
Observed Conditions: Excess Vegetation Growth

Recommendations: Contact Grounds to address issues.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 8-29-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap:			X		
	Vegetation				X	
	Cap					X
	Gas Vents	X				
2.0	Drainage Structures:			X		
	Toe Drain	X				
	Drainage Channels		X			
	French Drains/Outfalls	X				
	Subsurface Drainage Pipes/Outfalls					
	Manholes	X				
	Recharge Areas	X				
	Monitoring System:					
	Soil Gas Wells	X				
	Groundwater Wells	X				X
4.0	Site Access:					
	Asphalt Access Road					
	Crushed-Concrete Access Road	X		X		

i. Description of Further Action Requirements:

Location: Landfill, Drainage Channels, Edges, Roads

Observed Conditions:

A lot of excess vegetation growth.

Recommendations:

SENT E-Mail to Grounds asking to correct all issues as soon as possible. Replied they would take care of it

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 9-26-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap:					
	Vegetation	X				
	Cap	X				
	Gas Vents	X				
2.0	Drainage Structures:					
	Toe Drain	X				
	Drainage Channels	X				
	French Drains/Outfalls	X				
	Subsurface Drainage Pipes/Outfalls	X				
	Manholes	X				
	Recharge Areas	X				
	Monitoring System:					
	Soil Gas Wells	X				
	Groundwater Wells	X				
4.0	Site Access:					
	Asphalt Access Road					
	Crushed-Concrete Access Road	X				

Description of Further Action Requirements:

Location: All OK

Observed Conditions: _____

Recommendations: _____

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 10-30-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X				X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells					X
						X
	Site Access: Asphalt Access Road Crushed-Concrete Access Road	X				X
		X				X

Description of Further Action Requirements:

Location: All OK

Observed Conditions:

Recommendations:

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 11-28-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap:					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	Drainage Structures:					
	Toe Drain	X				
	Drainage Channels		X			
	French Drains/Outfalls	X				
	Subsurface Drainage Pipes/Outfalls					
	Manholes	X				
	Recharge Areas	X				
	Monitoring System:					
	Soil Gas Wells	X				
	Groundwater Wells	X				X
3.0	Site Access:					
	Asphalt Access Road	X				
	Crushed-Concrete Access Road					X

Description of Further Action Requirements:

Location: Drainage channels

Observed Conditions: Some vegetation

Recommendations: Monitor

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 12-21-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X	X			X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells					X
						X
						X
						X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	X				X
		X				X

5. Description of Further Action Requirements:

Location: Drainage channels

Observed Conditions: Some vegetation

Recommendations: Monitor

BROOKHAVEN NATIONAL LABORATORY LTRA SITE INSPECTION FORM

Location (AOC): Current Landfill and Wooded Wetland _____
 Date of Inspection: 6/6/18 _____
 Name of Inspector(s): R. Howe, J. Burke, A. Steinhauff, W. Dorsch, V. Racaniello
 Purpose of Inspection: Routine (Scheduled Frequency of 2x/yr) Heavy Rainfall Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands: Vegetation (e.g. grass) Soil (Cap/Cover/Fill) Other: _____	X				Grass needs mowing No burrows evident	X
2. Drainage Structures: Standing Water Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Berms Roof Drains Recharge Areas Other: _____	X				None Veg. in channels Basin dry	X X X X X X X X X
3. Monitoring System: Soil Gas Wells Groundwater Wells Gas Vents Other: _____		X			Needs clearing Locked	X X
4. Site Access: Asphalt Access Road Crushed-concrete Access Road Fence Gates/locks LUIC Signs Other: Stairs access to cap	X			X	Grass in cracks Gates locked Replace worn sign	X X X X
5. Evidence of unauthorized work activities and/or unauthorized access has occurred? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe evidence: _____						

B. Description of Other Observations

Observed Conditions/Recommendations: The grass on the cap was not cut yet this year, and it prohibited walking due to safety concerns with ticks. However, no burrows are evident from the road. Facilities and Operations partially sprayed the vegetation along the asphalt road edges for weeds, but more work is needed there and in the channels. F&O needs to cut weeds for access to the soil gas and groundwater monitoring wells. All three point of contact signs are in place and gates locked. The sign on SE gate is faded and broken, and was replaced the same day. The Wooded Wetland has significant standing water. LUIC Factsheet Changes: No changes for Current Landfill. For the Wooded Wetlands, Admin. Controls, reference 2016 Natural Resource Management Plan, and fix link to reference.

BROOKHAVEN NATIONAL LABORATORY LTRA SITE INSPECTION FORM

Location (AOC): Current Landfill and Wooded Wetland _____

Date of Inspection: 12/3/18 _____

Name of Inspector(s): R. Howe, M. Samms

Purpose of Inspection: Routine (Scheduled Frequency of 2x/yr) Heavy Rainfall Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands: Vegetation (e.g. grass) Soil (Cap/Cover/Fill) Other: _____	X				Grass cut in October	X
	X				No burrows	X
2. Drainage Structures: Standing Water Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Berms Roof Drains Recharge Areas Other: _____	X				Some along roads	X
	X					X
		X			Some veg. in channels	X
			X		Some water	X
	X				Some water	X
			X			X
			X			X
	X					X
3. Monitoring System: Soil Gas Wells Groundwater Wells Gas Vents Other: _____	X					X
	X				Locked	X
	X					X
4. Site Access: Asphalt Access Road Crushed-concrete Access Road Fence Gates/locks LUIC Signs Other: Stairs access to cap	X				Grass in cracks	X
			X			X
	X					X
	X				Gates locked	X
	X				3 signs in place	X
	X				Good condition	X
5. Evidence of unauthorized work activities and/or unauthorized access has occurred? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe evidence: _____						

B. Description of Other Observations

Observed Conditions/Recommendations: The grass on the cap was cut in October, and there are a few piles of cut grass mounded. No animal burrows are present. Facilities and Operations need to fill in one sunken area on NE slope from an old burrow and reseed. All three point of contact signs are in place and gates locked. The Wooded Wetland has significant water present and it backs up to the toe drain on the NE side of landfill. LUIC Factsheet Changes: No changes for Current Landfill or Wooded Wetlands.

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 1-29-18

Purpose of Inspection:

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	/				/
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	/				/
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	/				/
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	/				/

B. Description of Further Action Requirements:

1. Location: All OK

Observed Conditions:

Recommendations:

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 2-26-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	/				/
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	/				/
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	/				/
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	/				/

B. Description of Further Action Requirements:

1. Location: _____

Observed Conditions: All OK

Recommendations: _____

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 3-29-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X				X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	X				X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	X				X
		X				X

B. Description of Further Action Requirements:

1. Location: _____

Observed Conditions: All OK

Recommendations: _____

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 4-26-18

Purpose of Inspection:

Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	/				/
		/				/
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	/				/
		/				/
		/				/
		/				/
		/				/
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	/				/
		/				/
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	/				/
		/				/

B. Description of Further Action Requirements:

1. Location:

Observed Conditions:

All OK. Some vegetation starting to grow

Recommendations:

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 5-21-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap:					
	Vegetation		X		X	
	Cap	X				X
	Gas Vents	X				X
2.0	Drainage Structures:					
	Toe Drain	X				X
	Drainage Channels		X			
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	X				X
	Recharge Areas	X				X
3.0	Monitoring System:					
	Soil Gas Wells		X		X	
	Groundwater Wells	X				X
4.0	Site Access:					
	Asphalt Access Road		X			
	Crushed-Concrete Access Road		X		X	

B. Description of Further Action Requirements:

1. Location: Landfill, Drainage channels, Edges, Road

Observed Conditions:

Some Excess Vegetation Growth, Woodchuck Burrow
Small Pine Saplings on landfill, drainage channels

Recommendations: Will Contact Grounds

**BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 6-27-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X	X		X	X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X	X		X	X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells		X		X	X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road		X		X	
			X			

B. Description of Further Action Requirements:

1. Location: Landfill, drainage channels, edges, Roads

Observed Conditions:

Some Excess vegetation growth. Small pines on Landfill + culverts
Woodchuck burrows

Recommendations:

SENT E-mail To Grounds today to address issues.

**BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 7-25-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X	X		X	X
		X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X	X		X	X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells		X		X	X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road		X		X	
			X			X
			X			

B. Description of Further Action Requirements:

1. Location: Landfill, Edges, Roads, Drainage channels

Observed Conditions:

Excess Vegetation Growth

Recommendations: Contact Grounds

**BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 8-29-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X		X	X	X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X	X		X	X
	Monitoring System: Soil Gas Wells Groundwater Wells		X		X	X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road		X	X	X	X

B. Description of Further Action Requirements:

1. Location: Landfill, Edges, Roads, Drainage channels

Observed Conditions: A LOT OF EXCESS VEGETATION GROWTHY Pine Saplings

Recommendations:

SENT E-Mail To Grounds ASKING TO CORRECT ALL ISSUES, AS SOON AS POSSIBLE. REPLIED THEY WOULD TAKE CARE OF IT

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 9-26-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X				X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	X				X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	X				X
		X				X

B. Description of Further Action Requirements:

1. Location: All OK

Observed Conditions: _____

Recommendations: _____

**BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 10-30-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X				X
		X				X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells					X
		X				X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	X				X
		X				X

B. Description of Further Action Requirements:

1. Location: All OK

Observed Conditions:

Recommendations:

**BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM**

Name of Inspector(s): Eric Kramer

Date of Inspection: 11-29-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X	X			X
		X				X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	X				X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road	X				X
		X				X

B. Description of Further Action Requirements:

1. Location: Drainage channels

Observed Conditions: Some vegetation

Recommendations: Monitor

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Eric Kramer

Date of Inspection: 12-21-18

Purpose of Inspection: Routine Heavy Rainfall Reported Incident

Time on Site:

Time off Site:

Weather Conditions:

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap: Vegetation Cap Gas Vents	X				X
		X				X
		X				X
2.0	Drainage Structures: Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Recharge Areas	X				X
			X			X
		X				X
		X				X
		X				X
3.0	Monitoring System: Soil Gas Wells Groundwater Wells	X				X
		X				X
4.0	Site Access: Asphalt Access Road Crushed-Concrete Access Road					
		X				
		X				X

B. Description of Further Action Requirements:

1. Location: _____

Observed Conditions: _____

Drainage channels

Some vegetation

Recommendations: _____

Monitor

BROOKHAVEN NATIONAL LABORATORY SITE INSPECTION FORM

Location (AOC): Former Landfill Area (includes the former and interim landfills and slit trench)
 Date of Inspection: 5/21/18
 Name of Inspector(s): R. Howe, W. Dorsch, V. Racaniello, E. Kramer, A. Steinhauff, M. Samms, N. Contos
 Purpose of Inspection: Routine (Scheduled Frequency of 2x/yr) Heavy Rainfall Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands: Vegetation (e.g. grass) Soil (Cap/Cover/Fill) Other: _____	X				Needs cut, but too wet Burrow on West Slope	X
2. Drainage Structures: Standing Water Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Berms Roof Drains Recharge Areas Other: _____	X				Cap is spongy/wet Vegetation in channels Significant vegetation	X X X X X X X X X
3. Monitoring System: Soil Gas Wells Groundwater Wells Gas Vents Other: _____		X				X X No nests X
4. Site Access: Asphalt Access Road Crushed-concrete Access Road Fence Gates/locks Radiological Postings Other: LUIC Signs		X				X X X X X Signs in place/repair one
5. Evidence of unauthorized work activities and/or unauthorized access has occurred? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe evidence: _____						

B. Description of Other Observations

Observed Conditions/Recommendations: Former Landfill, Interim Landfill, and Slit Trench caps are in good condition. Former Landfill cap was spongy and wet in the middle. Facilities and Operations (F&O) was informed 5/21/18 that the grass should not be cut until it dries out. There was one woodchuck burrow observed on the Former Landfill west slope, and was filled in at the time of inspection. There is significant vegetation in the drainage channels and a few pine seedlings growing on the south and west slope which need to be addressed by F&O. All contact signs were in place. However, the sign by the former landfill entrance is faded and needs to be replaced. LUIC Factsheet Changes: None.

BROOKHAVEN NATIONAL LABORATORY SITE INSPECTION FORM

Location (AOC): Former Landfill Area (includes the former and interim landfills and slit trench)
 Date of Inspection: 11/29/18
 Name of Inspector(s): R. Howe, E. Kramer, A. Steinhauff, M. Samms, T. Green
 Purpose of Inspection: Routine (Scheduled Frequency of 2x/yr) Heavy Rainfall Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands: Vegetation (e.g. grass) Soil (Cap/Cover/Fill) Other: _____	X				Grass cut in October Some shallow tire ruts	X
2. Drainage Structures: Standing Water Toe Drain Drainage Channels French Drains/Outfalls Subsurface Drainage Pipes/Outfalls Manholes Berms Roof Drains Recharge Areas Other: _____	X				Cap surface is spongy Some veget in channels X	X
3. Monitoring System: Soil Gas Wells Groundwater Wells Gas Vents Other: _____		X			No nests	X
4. Site Access: Asphalt Access Road Crushed-concrete Access Road Fence Gates/locks Radiological Postings Other: LUIC Signs		X			Signs in place	X
5. Evidence of unauthorized work activities and/or unauthorized access has occurred? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe evidence: _____						

B. Description of Other Observations

Observed Conditions/Recommendations: Former Landfill, Interim Landfill, and Slit Trench caps are in good condition. The grass was cut in October. The Former Landfill cap was spongy due to recent rains. There were no woodchuck burrows observed. There is no water in the recharge basin. Vegetation in the drainage channels need to be cut or sprayed by Facilities and Operations. A few pine seedlings growing on the slopes of the landfills were removed at the time of inspection. Point of contact signs were in place. LUIC Factsheet Changes: None.

Appendix C

Historical Soil-gas Monitoring Data

1996 CURRENT LANDFILL SOIL GAS MONITORING SUMMARY TABLE

1998 Environmental Monitoring Report

Current and Former Landfills - Brookhaven National Laboratory

Soil Gas Monitoring Well	Methane (% by Volume)			
	April-96	June-96	July-96	December-96
SGMW-01A	21.6	0	16.5	29.8
SGMW-01B	23.2	0	11	28.9
SGMW-01C	24.1	0	11.4	26.8
SGMW-02A	55.1	55	49.5	64.8
SGMW-02B	55.5	52.7	51.4	59
SGMW-02C	55.6	56.4	48.8	58
SGMW-03A	66	61.2	54	62.8
SGMW-03B	62	59.5	45	61.6
SGMW-03C	57.8	58.1	54	57.9
SGMW-04A	49.7	0	48.9	52.4
SGMW-04B	53	0	49.4	54.3
SGMW-04C	57.8	0	48.6	55.9
SGMW-05A	50.1	49.4	46.5	52
SGMW-05B	50.9	47.5	42	53.7
SGMW-05C	48.7	46.9	38.4	51.6
SGMW-06A	40.1	44.2	0.8	0
SGMW-06B	44	46	41.9	0
SGMW-06C	45.2	46.7	42	0
SGMW-07A	8.6	10.4	14.5	6.2
SGMW-07B	76	71.6	0.2	0.8
SGMW-07C	8.4	11.7	3.2	8.7
SGMW-08A	0	0	0.7	0
SGMW-08B	0	0	0	0
SGMW-08C	0	0	0	0
SGMW-09A	0.3	0	0	2.8
SGMW-09B	1.2	0	0	6.7
SGMW-09C	2.5	0.3	0	5.8
SGMW-10A	16.7	22.8	23	22.7
SGMW-10B	16.6	14.3	15.8	32.5
SGMW-10C	14	18.2	11.4	29.2
SGMW-11A	16.4	26.8	23.5	39.3
SGMW-11B	15.7	25.6	25	29.6
SGMW-12A	57.5	0	36.9	57.2
SGMW-12B	51.3	0	32.3	55.7
SGMW-13A	46.3	0	18.7	0
SGMW-13B	47.5	0	26	0
SGMW-14A	34.9	0	18.1	38.6
SGMW-14B	41.4	45.7	16	0
SGMW-15A	0	0.6	3.6	3.4
SGMW-15B	12.7	0	0	0
SGMW-16A	0	0	0	0
SGMW-16B	0	0	0.7	0
SGMW-17A	0	0	0	0
SGMW-17B	0	0	0	0
SGMW-18A	2.6	0	0	7.1
SGMW-18B	0.6	0	0	0
SGMW-19A	40.6	29	16	52.5
SGMW-19B	36.7	30.1	6.9	46.5
GSGM-1A	NA	0	0	0
GSGM-1B	NA	0	0	0
GSGM-1C	NA	0	0	0
GSGM-2A	NA	0	0	0
GSGM-2B	NA	0	0	0
GSGM-2C	NA	0	0	0
GSGM-3A	NA	0	0	0
GSGM-3B	NA	0	0	0
GSGM-4A	NA	0	0	0
GSGM-4B	NA	0	0	0

^a No measurement was recorded.

NA Well was not yet installed.

1997 CURRENT LANDFILL SOIL GAS MONITORING SUMMARY TABLE

1998 Environmental Monitoring Report

Current and Former Landfills - Brookhaven National Laboratory

Soil Gas Monitoring Well	Methane (% By Volume)			Hydrogen sulfide (ppm By Volume)		
	March-97	August-97	November-97	March-97	August-97	November-97
SGMW-01A	33.4	17.1	16.4	5	5	8
SGMW-01B	32.5	17.2	15.8	1	4	7
SGMW-01C	34.2	15.9	14.5	1	0	1
SGMW-02A	62.4	47.7	53.3	40	39	137
SGMW-02B	64.7	57	56.7	9	17	43
SGMW-02C	62.6	56.6	55.6	2	0	0
SGMW-03A	55.2	55.7	52.2	3	24	15
SGMW-03B	67.5	55.8	57	7	5	9
SGMW-03C	62.5	55.8	57	3	6	7
SGMW-04A	57.6	53.9	52.5	6	32	6
SGMW-04B	58.2	52.5	55.8	7	29	25
SGMW-04C	58.2	52.5	54.5	6	14	15
SGMW-05A	55.2	47.5	50.5	6	44	29
SGMW-05B	54.4	43.3	45.5	10	21	20
SGMW-05C	53.6	37.5	38.7	3	1	2
SGMW-06A	42.6	44	42.9	7	33	3
SGMW-06B	45	43.5	44.4	10	16	17
SGMW-06C	45	42	43.1	7	13	15
SGMW-07A	10.1	2.3	0	3	0	0
SGMW-07B	8.8	0	0	5	0	6
SGMW-07C	9.9	4.1	0.2	3	0	9
SGMW-08A	0	0	0	1	0	5
SGMW-08B	0	0	0	0	0	9
SGMW-08C	0	0	0	0	0	10
SGMW-09A	0.3	0	0	0	0	15
SGMW-09B	3.4	0	0	0	0	14
SGMW-09C	4.6	0.8	1	0	0	12
SGMW-10A	20.5	28	19	1	19	13
SGMW-10B	19.8	24.5	24	1	0	5
SGMW-10C	0	21.7	20.6	0	0	18
SGMW-11A	24.3	27.6	25.2	20	60	56
SGMW-11B	0	27.8	20.5	0	74	32
SGMW-12A	55.9	48	42	21	89	98
SGMW-12B	0	46.5	44.3	0	0	25
SGMW-13A	28.7	45.2	0.7	2	16	19
SGMW-13B	0	0.4	36.9	0	0	27
SGMW-14A	39.1	20.1	5.2	6	10	24
SGMW-14B	0	0	13.5	0	0	13
SGMW-15A	1.8	0.2	2.5	0	0	14
SGMW-15B	0	0	2.6	0	0	14
SGMW-16A	0	31.7	1.1	0	0	9
SGMW-16B	0	0	0	0	0	0
SGMW-17A	0	0	0	0	0	20
SGMW-17B	0	0	0	0	0	0
SGMW-18A	0	0	0	0	0	14
SGMW-18B	0	0	0	0	0	15
SGMW-19A	35.1	22	10.6	41	51	42
SGMW-19B	0	29	17.3	0	30	12
CSGM-1A	0	0	0	4	0	0
CSGM-1B	0	0	0	5	0	1
CSGM-1C	0	0	0	6	0	0
CSGM-2A	0	0	0	6	0	0
CSGM-2B	0	0	0	6	0	4
CSGM-2C	0	0	0	6	0	0
CSGM-3A	0	0	0	5	0	0
CSGM-3B	0	0	0	4	0	0
CSGM-4A	0	0	0	5	0	8
CSGM-4B	0	0	0	5	0	0

* Values are calculated, not measured.

◊ No measurement was recorded.

Brookhaven National Laboratory
1998 Landfill Environmental Monitoring Report
1998 Current Landfill Soil Gas Monitoring Summary Table.

Soil Gas Monitoring Well	Methane (% By Volume) February-98	Methane (% By Volume) May-98	Methane (% By Volume) August-98	Methane (% By Volume) December-98	Hydrogen sulfide (ppm By Volume) February-98	Hydrogen sulfide (ppm By Volume) May-98	Hydrogen sulfide (ppm By Volume) August-98	Hydrogen sulfide (ppm By Volume) December-98	Soil Gas Monitoring Well
SGMW-01A	26.3	20.1	24.2	20.4	0	0	0	0	SGMW-01A
SGMW-01B	25.1	30.1	26	17.7	4	0	1	4	SGMW-01B
SGMW-01C	24	20	26	51.1	02	0	4	0	SGMW-01C
SGMW-02A	27.8	25.3	28.1	64.8	03	0	5	1	SGMW-02A
SGMW-02B	24.1	60	60	53.1	11	0	2	0	SGMW-02B
SGMW-02C	21.6	54.7	65	53.1	10	0	2	1	SGMW-02C
SGMW-03A	29.4	00	78.8	2.9	23	0	0	0	SGMW-03A
SGMW-03B	76.0	74	74	51.1	-1	0	0	0	SGMW-03B
SGMW-03C	65.3	65.5	65.3	41.5	0	7	4	0	SGMW-03C
SGMW-04A	11.3	54.2	65	0.4	0	4	3	0	SGMW-04B
SGMW-04B	56.0	65.0	60	38.1	17	6	2	0	SGMW-04C
SGMW-04C	40.8	57.8	57.6	0	3	6	5	2	SGMW-05A
SGMW-05A	48.1	62.4	60	40.0	3	4	3	0	SGMW-05B
SGMW-05B	64	52.1	55.4	47.7	3	13	2	0	SGMW-05C
SGMW-05C	18	50.3	46	41.5	0	7	0	0	SGMW-06A
SGMW-06A	27.3	44.1	30.3	17.6	2	0	0	0	SGMW-06B
SGMW-06B	44.6	46.5	7.0	47.2	16	0	0	0	SGMW-06C
SGMW-06C	46.3	40	0.4	0	0	0	4	0	SGMW-07A
SGMW-07A	2.2	0.9	7.2	0	0	4	0	0	SGMW-07B
SGMW-07B	0	0.6	7	0	0	0	0	0	SGMW-07C
SGMW-07C	4.0	6.5	0.8	0.1	0	0	0	0	SGMW-08A
SGMW-08A	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-08B	0	0	0	0	0	0	0	0	SGMW-08C
SGMW-08C	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09A	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09B	0.7	1.4	1.2	0	0	0	0	0	SGMW-09C
SGMW-09C	3	2.7	2.5	0.7	0	0	0	0	SGMW-10A
SGMW-10A	17.0	28.7	30	28.2	2	0	0	0	SGMW-10B
SGMW-10B	23.5	26.4	28.3	26	0	0	0	0	SGMW-10C
SGMW-10C	20.7	24	23	23.7	0	0	0	0	SGMW-11A
SGMW-11A	22.0	31	29.4	17.0	0	0	0	0	SGMW-11B
SGMW-11B	10.0	20	26.0	26.4	0	0	0	0	SGMW-11C
SGMW-12A	53.7	67.2	60.4	33.9	07	0	4	0	SGMW-12B
SGMW-12B	60.3	0.2	0	38.2	11	0	0	0	SGMW-13A
SGMW-13A	7	61.6	59	0	0	0	0	0	SGMW-13B
SGMW-13B	0.1	0.1	0	0	0	0	0	0	SGMW-14A
SGMW-14A	17.1	21	16	0	0	0	0	0	SGMW-14B
SGMW-14B	0	0	0	0	0	0	0	0	SGMW-15A
SGMW-15A	4	1.2	0	0	0	0	0	0	SGMW-16A
SGMW-15B	0	0	0.7	0	0	0	0	0	SGMW-16B
SGMW-16A	0	0	0	0	0	0	0	0	SGMW-16B
SGMW-16B	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17A	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-17B	0	0	0	0	0	0	0	0	SGMW-18A
SGMW-18A	0.2	0	0	0	0	0	0	1	SGMW-18B
SGMW-18B	37.4	47.2	30.4	0.7	00	0	0	0	SGMW-18B
SGMW-18B	30.7	4	1	12	07	0	1	0	

Soil Gas Monitoring Well	Methane (% By Volume) February-88	Methane (% By Volume) May-88	Methane (% By Volume) August-88	Methane (% By Volume) December-88	Hydrogen sulfide (ppm By Volume) February-88	Hydrogen sulfide (ppm By Volume) May-88	Hydrogen sulfide (ppm By Volume) August-88	Hydrogen sulfide (ppm By Volume) December-88	Soil Gas Monitoring Well
GSGM-1A	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	GSGM-1B
GSGM-1D	0	0	0	0	0	0	0	0	GSGM-1D
GSGM-2A	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0	0	20.1	0	0	0	0	0	GSGM-2B
GSGM-2D	0	0	0	0	0	0	0	0	GSGM-2D
GSGM-3A	0	0	0	0	0	0	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	GSGM-4B

* Values are calculated, not measured.

** No measurement was recorded.

Brookhaven National Laboratory
 1998 Landfill Environmental Monitoring Report
 1998 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) June-98	Methane (% By Volume) October-98	Methane (% By Volume) December-98	LEL (% By Volume) June-98	LEL (% By Volume) October-98	LEL (% By Volume) December-98	Hydrogen sulfide (ppm By Volume) June-98	Hydrogen sulfide (ppm By Volume) October-98	Hydrogen sulfide (ppm By Volume) December-98	Soil Gas Monitoring Well
SGMW-01A	18.5	17.0	16.0	390	380	372	0	0	0	SGMW-01A
SGMW-01B	18.6	16.1	18.0	370	362	372	0	0	1	SGMW-01B
SGMW-01C	17.2	14.2	18.7	344	200	334	0	0	1	SGMW-01C
SGMW-02A	52.4	62.0	55.0	1010	1062	1118	0	0	25	SGMW-02A
SGMW-02B	54.4	65	58.7	1080	1104	1134	0	0	11	SGMW-02B
SGMW-02C	55.3	65.2	57.5	1100	1104	1160	0	0	3	SGMW-02C
SGMW-03A	58.0	41.5	2.0	1102	030	50	0	0	1	SGMW-03A
SGMW-03B	61.4	60.3	61.3	1220	1100	1220	0	0	4	SGMW-03B
SGMW-03D	58.0	33.3	58.5	1100	1080	1180	0	0	3	SGMW-03D
SGMW-04A	53.8	0	39.1	1070	1070	1050	0	0	7	SGMW-04A
SGMW-04B	53.5	63.6	62.0	1070	1041	974	0	0	9	SGMW-04B
SGMW-04C	62.4	59.2	40.7	1040	1022	944	0	0	8	SGMW-04C
SGMW-05A	47.8	51.1	47.4	940	1000	984	0	0	4	SGMW-05A
SGMW-05B	48	61.5	40	600	702	708	0	0	2	SGMW-05B
SGMW-05C	39.7	38	38.3	794	702	704	0	0	7	SGMW-05C
SGMW-06A	41.1	0.1	39.2	420	2	834	0	0	6	SGMW-06A
SGMW-06B	43.2	43.2	40.0	602	602	620	0	0	2	SGMW-06B
SGMW-06C	43.1	0	40.6	602	0	0	0	0	0	SGMW-06C
SGMW-07A	3.3	0.1	0	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0.8	0	0	0	34	28	0	0	0	SGMW-07B
SGMW-07C	4.4	0.17	1.3	0	0	0	0	0	0	SGMW-07C
SGMW-08A	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-08C	0	0	0	0	0	0	0	0	0	SGMW-08C
SGMW-08E	0	0	0	0	0	0	0	0	0	SGMW-08E
SGMW-09C	0	0	0.1	0	0	2	0	0	0	SGMW-09C
SGMW-10A	21.4	16.7	20	420	314	400	0	0	0	SGMW-10A
SGMW-10B	10.8	26.7	21.1	390	622	420	0	0	0	SGMW-10B
SGMW-10C	17.8	22.0	16.1	360	464	424	0	0	0	SGMW-10C
SGMW-11A	10.3	31.2	16.0	308	424	300	0	0	0	SGMW-11A
SGMW-11B	19.2	26.0	14.8	304	812	294	0	0	0	SGMW-11B
SGMW-12A	48.8	45.1	47.1	804	807	041	0	0	0	SGMW-12A
SGMW-12B	44.2	48.6	47.11	884	930	954	0	0	0	SGMW-12B
SGMW-13A	53.1	0.1	0	1082	0	0	0	0	0	SGMW-13A
SGMW-13B	0.2	0.2	21.6	4	4	402	0	0	0	SGMW-13B
SGMW-14A	7.0	6.8	7.1	152	110	142	0	0	0	SGMW-14A
SGMW-14B	0	22.0	3.1	0	452	60	0	0	0	SGMW-14B
SGMW-15A	0	1.0	2.9	0	32	58	0	0	0	SGMW-15A
SGMW-15B	0	0.1	0	0	0	0	0	0	0	SGMW-15B
SGMW-15C	0	0.1	0	0	0	0	0	0	0	SGMW-15C
SGMW-16A	0	0.1	0	0	0	0	0	0	0	SGMW-16A
SGMW-16B	0	0.1	0	0	0	0	0	0	0	SGMW-16B
SGMW-17A	screen In water table	0.1	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	screen In water table	0.1	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0	0.1	0	0	20	0	0	0	0	SGMW-18A
SGMW-18B	0	1	0.4	802	400	400	0	0	18	SGMW-18B
SGMW-19A	26.1	23	20.5	802	544	410	0	0	12	SGMW-19A
SGMW-19B	30.1	27.9	20.5	802	0	0	0	0	0	SGMW-19B

Brookhaven National Laboratory
 1999 Landfill Environmental Monitoring Report
 1999 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) June-99	Methane (% By Volume) October-99	Methane (% By Volume) December-99	LEL (% By Volume) June-99	LEL (% By Volume) October-99	LEL (% By Volume) December-99	Hydrogen sulfide (ppm By Volume) June-99	Hydrogen sulfide (ppm By Volume) October-99	Hydrogen sulfide (ppm By Volume) December-99	Soil Gas Monitoring Well
GSGM-1A	0	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	GSGM-1B
GSGM-1C	0	broken valve	broken valve	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	GSGM-4B

* = No measurement was recorded.

ગુરૂની લાંબા હતું કાંઈપણ કાંઈપણ કરું રહેતું
ગુરૂની લાંબા હતું કાંઈપણ કાંઈપણ કરું રહેતું

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**Brookhaven National Laboratory
2001 Long Island Environmental Monitoring Report
Long Island Field Office Monitoring Summary Table**

2001 Queen and Lippincott

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2003 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) April-03	Methane (% By Volume) July-03	Methane (% By Volume) October-03	Methane (% By Volume) December-03	LEL (% By Volume) April-03	LEL (% By Volume) July-03	LEL (% By Volume) October-03	LEL (% By Volume) December-03	Hydrogen Sulfide (ppm by volume) April-03	Hydrogen Sulfide (ppm by volume) July-03	Hydrogen Sulfide (ppm by volume) October-03	Hydrogen Sulfide (ppm by volume) December-03	Soil Gas Monitoring Well
SGMW-01A	17.6	22.1	21.1	21.5	352	444	422	436	2	-	0	-	SGMW-01A
SGMW-01B	18.6	16.2	19.7	19.8	372	324	394	396	3	-	81	-	SGMW-01B
SGMW-01C	18.0	13.9	20.0	17.3	360	282	400	348	3	-	80	-	SGMW-01C
SGMW-02A	58.2	41.2	5.0	22.2	(1164)	324	100	442	14	-	68	-	SGMW-02A
SGMW-02B	55.7	0.0	0.1	0.0	(1140)	0	2	0	32	-	13	-	SGMW-02B
SGMW-02C	59.1	0.0	0	42.7	536	0	0	858	9	-	0	-	SGMW-02C
SGMW-03A	26.8	57.8	55.0	0.0	(1182)	(1156)	(1100)	0	19	-	0	-	SGMW-03A
SGMW-03B	69.1	0.0	54.2	11.7	(1078)	0	(1084)	234	23	-	95	-	SGMW-03B
SGMW-03C	63.9	0.0	0.2	41.0	(1052)	0	4	820	3	-	0	-	SGMW-03C
SGMW-04A	54.1	0.0	0.5	9.4	966	0	10	186	3	-	109	-	SGMW-04A
SGMW-04B	53.9	0.0	0.2	47.0	938	0	4	940	7	-	27	-	SGMW-04B
SGMW-04C	52.6	0.0	0.1	41.5	862	0	2	832	15	-	0	-	SGMW-04C
SGMW-05A	48.3	48.0	54.9	23.4	966	960	(1098)	468	2	-	163	-	SGMW-05A
SGMW-05B	46.9	43.8	53.8	38.8	938	876	(1076)	776	3	-	0	-	SGMW-05B
SGMW-05C	43.1	0.0	41.8	32.3	862	0	836	648	3	-	0	-	SGMW-05C
SGMW-06A	40.3	5.8	15.5		806	116	310	420	1	-	0	-	SGMW-06A
SGMW-06B	42.9	0.0	0.0	20.7	858	0	0	896	3	-	0	-	SGMW-06B
SGMW-06C	43.6	0.0	0.1	44.8	872	0	2	900	2	-	0	-	SGMW-06C
SGMW-07A	0.8	0.0	0.0	45.1	16	0	0	0	1	-	0	-	SGMW-07A
SGMW-07B	0.9	0.0	0.1	0.0	18	0	2	0	2	-	0	-	SGMW-07B
SGMW-07C	4.0	0.0	0.1	0.0	80	0	2	0	0	-	0	-	SGMW-07C
SGMW-08A	0.0	0	0.1	0.0	0	0	2	0	0	-	27	-	SGMW-08A
SGMW-08B	0.0	0	0	0.0	0	0	0	0	0	-	0	-	SGMW-08B
SGMW-08C	0.0	0	0	0.0	0	0	0	0	0	-	0	-	SGMW-08C
SGMW-09A	0	0	0.1	0.0	0	0	2	0	0	-	13	-	SGMW-09A
SGMW-09B	0	0	0	0.0	0	0	0	0	0	-	0	-	SGMW-09B
SGMW-09C	0.1	0	0.1	0.0	2	0	2	0	0	-	0	-	SGMW-09C
SGMW-10A	18.0	22.0	27.9	5.6	360	440	558	112	1	-	0	-	SGMW-10A
SGMW-10B	15.8	17.7	22.0	0.0	316	354	440	0	1	-	0	-	SGMW-10B
SGMW-10C	14.0	16.6	18.2	0.0	280	332	364	0	2	-	0	-	SGMW-10C
SGMW-11A	15.6	29.3	0.4	17.7	312	586	8	356	1	-	0	-	SGMW-11A
SGMW-11B	13.7	26.0	0.1	0.0	274	520	2	0	13	-	0	-	SGMW-11B
SGMW-12A	60.0	47.6	64.7	0.0	(1200)	952	(1294)	0	0	-	0	-	SGMW-12A
SGMW-12B	50.9	0.3	0.5	1.8	(1018)	6	10	36	1	-	0	-	SGMW-12B
SGMW-13A	30.5	0.0	67.2	66.4	610	0	(1344)	1328	1	-	163	-	SGMW-13A
SGMW-13B	0.0	0.8	0.1	0.0	0	16	2	0	1	-	0	-	SGMW-13A
SGMW-14A	29.4	9.8	8.3	0.0	588	196	2	0	10	-	0	-	SGMW-14A
SGMW-14B	0.2	0	0.1	0.1	4	0	2	2	1	-	0	-	SGMW-14B
SGMW-15A	0.1	0	0.1	0.0	2	0	2	0	1	-	54	-	SGMW-15A
SGMW-15B	0	0	0.1	0.0	0	0	2	0	0	-	0	-	SGMW-15B
SGMW-16A	0.1	0	0	0.0	2	0	0	0	1	-	0	-	SGMW-16A
SGMW-16B	0	0	0	0.0	0	0	0	0	3	-	0	-	SGMW-16B
SGMW-17A	0	0	0	0.0	0	0	0	0	3	-	0	-	SGMW-17A
SGMW-17B	0	0	0	0.0	0	0	0	0	2	-	0	-	SGMW-17B
SGMW-18A	0.1	0	0	0.0	2	0	0	0	2	-	0	-	SGMW-18A
SGMW-18B	0	0.1	0.0	0.0	0	2	0	0	0	-	0	-	SGMW-18B
SGMW-19A	41.8	29.1	40.0	27.0	838	582	800	540	0	-	0	-	SGMW-19A
SGMW-19B	44.0	0.7	33.2	29.5	880	14	664	592	39	-	191	-	SGMW-19B
GSGM-1A	0.1	0	0	0	2	0	0	0	0	-	0	-	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-1B
GSGM-1C	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	-	0	-	GSGM-4B

Measurements in () are calculated, not measured.

~ H2S pod was not operating correctly.

July measurements taken with a Landtec GEM 500.

2004 Current Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume) 3/10/04	Methane (% By Volume) 6/25/04	Methane (% By Volume) 10/7/04	Methane (% By Volume) 11/30/04	LEL (% By Volume) 3/10/04	LEL (% By Volume) 6/25/04	LEL (% By Volume) 10/7/04	LEL (% By Volume) 11/30/04	Hydrogen Sulfide (ppm by volume) 3/10/04	Hydrogen Sulfide (ppm by volume) 6/25/04	Hydrogen Sulfide (ppm by volume) 10/7/04	Hydrogen Sulfide (ppm by volume) 11/30/04	Soil Gas Monitoring Well
SGMW-01A	16.6	14.4	6.8	6.8	332	288	136	136	150	2	3	1	SGMW-01A
SGMW-01B	15.6	8.6	6.0	2.5	312	172	120	50	23	0	0	0	SGMW-01B
SGMW-01C	14.0	0.2	4.2	6.3	280	4	84	126	34	0	0	0	SGMW-01C
SGMW-02A	34.5	8.6	39.7	2.1	692	172	794	42	191	0	11	0	SGMW-02A
SGMW-02B	22.7	0.6	12.7	0.0	454	12	254	0	177	0	0	0	SGMW-02B
SGMW-02C	44.4	0.0	2	4.6	888	0	4	92	0	0	0	0	SGMW-02C
SGMW-03A	25.4	15.2	4.1	0.0	508	304	82	0	0	0	0	0	SGMW-03A
SGMW-03B	52.1	28.0	14.0	0.1	(1042)	560	280	2	0	0	0	0	SGMW-03B
SGMW-03C	51.3	7.3	1.8	0.0	(1026)	146	36	0	0	0	0	0	SGMW-03C
SGMW-04A	37.5	49.1	3.5	1.8	748	982	70	36	0	0	0	0	SGMW-04A
SGMW-04B	43.0	50.7	23.2	14.4	860	(1014)	454	288	0	0	0	0	SGMW-04B
SGMW-04C	36.2	40.9	21.2	14.5	724	818	424	290	0	0	0	0	SGMW-04C
SGMW-05A	36.1	40.0	13.6	3.7	722	800	272	74	150	0	0	0	SGMW-05A
SGMW-05B	36.8	41.4	25.2	13.6	736	828	504	272	0	0	0	0	SGMW-05B
SGMW-05C	29.0	24.0	18.6	13.6	590	480	372	272	0	0	0	0	SGMW-05C
SGMW-06A	31.8	9.7	3.9	1.8	636	194	78	36	0	0	0	0	SGMW-06A
SGMW-06B	40.4	27.4	20.6	0.3	808	548	412	6	0	0	0	0	SGMW-06B
SGMW-06C	42.1	29.8	4.7	13.2	842	596	94	264	0	0	0	0	SGMW-06C
SGMW-07A	0.2	0.1	0.0	0.0	4	2	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0.5	0.1	0.0	0.0	10	2	0	0	0	0	0	0	SGMW-07B
SGMW-07C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-07C
SGMW-08A	0.0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0.0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-08C	0.0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-08C
SGMW-09A	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0.2	0	0	0.0	4	0	0	0	0	0	0	0	SGMW-09C
SGMW-10A	1.9	16.4	2.0	0.0	38	328	40	0	0	1	0	0	SGMW-10A
SGMW-10B	2.4	16.1	12.0	3.9	48	322	240	78	0	2	0	0	SGMW-10B
SGMW-10C	0.0	14.5	10.0	2.4	0	290	200	48	0	0	0	0	SGMW-10C
SGMW-11A	0.0	16.0	5.5	0.0	0	320	110	0	0	2	0	0	SGMW-11A
SGMW-11B	0.0	14.7	10.1	0.3	0	294	202	6	109	0	0	0	SGMW-11B
SGMW-12A	22.5	48.5	9.9	0.0	450	970	198	0	122	21	0	0	SGMW-12A
SGMW-12B	0.0	0.2	7.2	0.0	0	4	144	0	136	0	0	0	SGMW-12B
SGMW-13A	0.0	0.6	1.0	0.0	0	12	20	0	0	0	0	0	SGMW-13A
SGMW-13B	0.0	0.1	0	1.1	0	2	0	22	191	0	0	0	SGMW-13A
SGMW-14A	0.0	0.1	0.0	0.0	0	2	0	0	130	0	0	0	SGMW-14A
SGMW-14B	0	0.1	0	2.3	0	2	0	46	122	0	0	0	SGMW-14B
SGMW-15A	0.0	0.1	0.0	0.0	0	2	0	0	0	0	0	0	SGMW-15A
SGMW-15B	0	0	0	5.8	0	0	0	116	0	0	0	0	SGMW-15B
SGMW-16A	0	0.1	0	0.0	0	2	0	0	0	0	0	0	SGMW-16A
SGMW-16B	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-16B
SGMW-17A	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-18A
SGMW-18B	0	0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18B
SGMW-19A	6.0	26.7	25.9	13.0	120	534	518	260	0	0	0	4	SGMW-19A
SGMW-19B	5.8	30.0	27.7	9.2	116	600	554	184	0	0	0	0	SGMW-19B
GSGM-1A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1B
GSGM-1C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4B

Measurements in () are calculated, not measured.
H2S pod suspected of not operating correctly in March.

2005 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 3/30/05	Methane (% By Volume) 7/21/05	Methane (% By Volume) 10/21/05	Methane (% By Volume) 12/28/05	LEL (% By Volume) 3/30/05	LEL (% By Volume) 7/21/05	LEL (% By Volume) 10/21/05	LEL (% By Volume) 12/28/05	Hydrogen Sulfide (ppm by volume) 3/30/05	Hydrogen Sulfide (ppm by volume) 7/21/05	Hydrogen Sulfide (ppm by volume) 10/21/05	Hydrogen Sulfide (ppm by volume) 12/28/05	Soil Gas Monitoring Well
SGMW-01A	8.8	5.4	5	6.7	176	108	100	134	1	3	2	2	SGMW-01A
SGMW-01B	3.0	2.9	3	3.8	60	58	60	76	0	0	0	0	SGMW-01B
SGMW-01C	7.5	5.6	5.5	6.1	150	112	110	122	1	0	0	0	SGMW-01C
SGMW-02A	0.3	13.7	1.7	3.0	6	274	34	60	0	0	0	1	SGMW-02A
SGMW-02B	0.2	0.7	27.2	12.4	4	14	544	248	1	0	6	3	SGMW-02B
SGMW-02C	0.3	0.1	247	0.0	6	2	494	0	1	0	0	0	SGMW-02C
SGMW-03A	0.7	36.8	0.7	0.0	14	736	14	0	0	0	0	0	SGMW-03A
SGMW-03B	0.5	2.5	47.6	11.0	10	50	952	220	1	0	2	1	SGMW-03B
SGMW-03C	0.1	0.2	39.9	0.0	2	4	798	0	0	0	1	0	SGMW-03C
SGMW-04A	0.2	10.7	46.2	9.3	4	214	924	186	0	1	0	0	SGMW-04A
SGMW-04B	6.5	25.1	42.4	18.0	130	502	848	360	0	0	1	1	SGMW-04B
SGMW-04C	6.3	0.2	38.2	14.1	126	4	764	282	0	0	0	2	SGMW-04C
SGMW-05A	0.7	14.3	36.6	10.2	14	286	732	204	1	1	1	1	SGMW-05A
SGMW-05B	13.4	21.1	34.6	22.8	268	422	692	456	0	1	0	0	SGMW-05B
SGMW-05C	9.2	18.8	27.3	18.3	184	376	546	366	0	1	0	0	SGMW-05C
SGMW-06A	0.2	2.4	29.7	8.1	4	48	594	162	1	1	0	0	SGMW-06A
SGMW-06B	7.7	24.4	29.7	16.8	154	488	594	336	1	1	0	0	SGMW-06B
SGMW-06C	8.6	24.7	27.2	14.9	172	494	544	298	1	1	1	0	SGMW-06C
SGMW-07A	0.0	0.0	0.0	0.0	0	0	0	0.0	0	0	0	0	SGMW-07A
SGMW-07B	0	0.0	0.0	0.0	0	0	0	0.0	0	0	0	0	SGMW-07B
SGMW-07C	0.0	0.0	0.0	0.0	0	0	0	0.0	1	1	0	0	SGMW-07C
SGMW-08A	0.0	0	0	0.0	0	0	0	0.0	0	0	0	0	SGMW-08A
SGMW-08B	0.0	0	0	0.0	0	0	0	0.0	0	0	0	0	SGMW-08B
SGMW-08C	0.0	0	0	0.0	0	0	0	0.0	0	0	0	0	SGMW-08C
SGMW-09A	0	.2	0	0.0	0	4	0	0.0	0	1	1	0	SGMW-09A
SGMW-09B	0	.2	0	0.0	0	4	0	0.0	1	0	0	0	SGMW-09B
SGMW-09C	0	.2	0	0.0	0	4	0	0.0	0	0	0	0	SGMW-09C
SGMW-10A	0.2	2.7	12.3	0.0	4	54	246	0.0	1	0	1	0	SGMW-10A
SGMW-10B	0.2	12.0	16.7	1.6	4	240	334	32	1	2	0	0	SGMW-10B
SGMW-10C	0.1	1.6	14.3	1.2	2	32	286	24	1	0	1	1	SGMW-10C
SGMW-11A	0.2	6.0	17.2	0.0	4	120	344	0	0	1	20	0	SGMW-11A
SGMW-11B	0.2	13.2	19.6	0.0	4	264	392	0	1	1	4	0	SGMW-11B
SGMW-12A	0.2	3.9	40.1	4.0	4	78	802	80	0	0	51	3	SGMW-12A
SGMW-12B	0.1	0.8	25.7	0.0	2	16	514	0	0	0	0	0	SGMW-12B
SGMW-13A	0.1	6.2	0.1	0.0	2	124	2	0	0	1	1	0	SGMW-13A
SGMW-13B	0.2	.4	.2	0.0	4	8	4	0	0	2	1	0	SGMW-13A
SGMW-14A	0.3	0.1	5.6	0.1	6	2	112	2	0	1	2	0	SGMW-14A
SGMW-14B	0	.2	.2	0.0	0	4	4	0	0	1	1	0	SGMW-14B
SGMW-15A	0.0	.2	.1	0.0	0	4	2	0	0	0	1	0	SGMW-15A
SGMW-15B	0	.1	.1	0.0	0	2	2	0	0	0	0	0	SGMW-15B
SGMW-16A	0	.2	0	0.0	0	4	0	0	0	1	0	0	SGMW-16A
SGMW-16B	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-16B
SGMW-17A	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	0	0	0	0.0	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0	0	0	0.0	0	0	0	0	0	0	1	0	SGMW-18A
SGMW-18B	0	0	0.0	0.0	0	0	0	0	0	0	0	1	SGMW-18B
SGMW-19A	5.6	6.3	29.2	15.7	112	126	584	314	0	1	20	2	SGMW-19A
SGMW-19B	0.0	0.0	31.8	8.1	0	0	636	162	0	0	46	0	SGMW-19B
GSGM-1A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	0	0	1	GSGM-1B
GSGM-1C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	1	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4B

Measurements in () are calculated, not measured.

2006 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 2/24/06	Methane (% By Volume) 6/23/06	Methane (% By Volume) 9/28/06	Methane (% By Volume) 12/27/06	LEL (% By Volume) 2/24/06	LEL (% By Volume) 6/23/06	LEL (% By Volume) 9/28/06	LEL (% By Volume) 12/27/06	Hydrogen Sulfide (ppm by volume) 2/24/06	Hydrogen Sulfide (ppm by volume) 6/23/06	Hydrogen Sulfide (ppm by volume) 9/28/06	Hydrogen Sulfide (ppm by volume) 12/27/06	Soil Gas Monitoring Well
SGMW-01A	8.6	11.9	12.5	11.3	174.0	238	250	226	0	0	6	0	SGMW-01A
SGMW-01B	0.0	0.0	11.0	3.1	0	0	220	62	0	0	1	0	SGMW-01B
SGMW-01C	0.0	0.0	10.5	0.2	0	0	210	4	0	0	5	0	SGMW-01C
SGMW-02A	13.9	18.1	46.9	1.4	282.0	362	938	28	0	0	9	0	SGMW-02A
SGMW-02B	6.8	12.8	33.4	0.2	142.0	256	668	4	0	0	27	0	SGMW-02B
SGMW-02C	0.0	0.8	30.5	0.3	0	16	610	6	0	0	0	0	SGMW-02C
SGMW-03A	19.3	26.8	27.0	0.2	386.0	536	540	4	0	0	8	0	SGMW-03A
SGMW-03B	0.0	11.9	48.5	0.1	0	238	970	2	0	0	12	0	SGMW-03B
SGMW-03C	0.0	1.5	45.0	0.3	0	30	900	6	0	0	7	0	SGMW-03C
SGMW-04A	0.0	16.4	52.1	0.2	0	328	1040	4	0	0	1	0	SGMW-04A
SGMW-04B	10.0	31.6	48.8	0.0	200.0	632	976	0	0	0	2	0	SGMW-04B
SGMW-04C	0.0	22.2	42.1	0.0	0	444	842	0	0	0	0	0	SGMW-04C
SGMW-05A	0.9	16.3	44.8	0.0	20.0	326	896	0	0	0	0	0	SGMW-05A
SGMW-05B	1.4	26.3	41.3	0.0	89.0	526	826	0	0	0	3	3	SGMW-05B
SGMW-05C	0.0	20.7	33.8	0.0	0	414	676	0	0	0	1	0	SGMW-05C
SGMW-06A	0.0	11.5	41.5	0.0	0	230	830	0	0	0	1	0	SGMW-06A
SGMW-06B	0.0	21.3	40.3	0.0	0	426	806	0	0	0	2	0	SGMW-06B
SGMW-06C	0.0	21.7	37.3	0.0	0	434	746	0	0	0	0	0	SGMW-06C
SGMW-07A	0.0	0.0	0.3	0.0	0	0	6	0	0	0	0	0	SGMW-07A
SGMW-07B	0.0	0.0	0.3	0.0	0	0	6	0	0	0	0	0	SGMW-07B
SGMW-07C	0.0	0.0	0.3	0.0	0	0	6	0	0	0	0	0	SGMW-07C
SGMW-08A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	2	0	SGMW-08B
SGMW-08C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	2	0	SGMW-08C
SGMW-09A	0.0	0.1	0.0	0.0	0	2	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-09C
SGMW-10A	0.0	9.8	15.4	0.0	0	196	308	0	0	0	0	0	SGMW-10A
SGMW-10B	0.0	12.0	18.0	0.0	0	240	360	0	0	0	2	0	SGMW-10B
SGMW-10C	0.0	10.6	16.2	0.0	0	212	324	0	0	0	2	0	SGMW-10C
SGMW-11A	0.0	7.6	15.3	0.0	0	152	306	0	0	0	2	0	SGMW-11A
SGMW-11B	0.0	9.8	14.9	0.0	0	196	298	0	0	0	25	0	SGMW-11B
SGMW-12A	0.0	16.7	41.3	0.0	0	336	826	0	0	0	18	0	SGMW-12A
SGMW-12B	1.1	2.0	0.0	0.0	22	40	0	0	0	0	0	0	SGMW-12B
SGMW-13A	0.0	0.0	0.2	0.0	0	0	4	0	0	0	0	0	SGMW-13A
SGMW-13B	0.0	0.0	0.2	0.0	0	0	4	0	0	0	0	0	SGMW-13A
SGMW-14A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-14A
SGMW-14B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-14B
SGMW-15A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-15A
SGMW-15B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-15B
SGMW-16A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1	0	SGMW-16A
SGMW-16B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1	0	SGMW-16B
SGMW-17A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-17A
SGMW-17B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18A
SGMW-18B	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	SGMW-18B
SGMW-19A	16.7	17.3	16.6	23.9	340	348	332	478	0	0	2	5	SGMW-19A
SGMW-19B	1.7	9.4	18.0	0.0	32	186	360	0	0	0	1	0	SGMW-19B
GSGM-1A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-1B
GSGM-1C	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-2B
GSGM-2C	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-2C
GSGM-3A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-3A
GSGM-3B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	GSGM-4B

Measurements in () are calculated, not measured.

2007 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 2/24/07	Methane (% By Volume) 5/17/07	Methane (% By Volume) 9/20/07	Methane (% By Volume) 12/20/07	LEL (% By Volume) 2/24/07	LEL (% By Volume) 5/17/07	LEL (% By Volume) 9/20/07	LEL (% By Volume) 12/20/07	Hydrogen Sulfide (ppm by volume) 2/24/07	Hydrogen Sulfide (ppm by volume) 5/17/07	Hydrogen Sulfide (ppm by volume) 9/20/07	Hydrogen Sulfide (ppm by volume) 12/20/07	Soil Gas Monitoring Well
SGMW-01A	10.0	12.2	5.7	3.1	200.0	244	116.0	62	0.0	1.0	0.0	3.0	SGMW-01A
SGMW-01B	6.4	4.5	6.0	1.6	128	90	118.0	32	0.0	1.0	1.0	0.0	SGMW-01B
SGMW-01C	5.9	0.3	5.5	2.0	118	6	110.0	40	0.0	0.0	1.0	0.0	SGMW-01C
SGMW-02A	0.2	0.4	37.5	17.4	4.0	8	750.0	348	0.0	1.0	1.0	0.0	SGMW-02A
SGMW-02B	0.0	17.6	30.8	10.5	0.0	352	616.0	210	0.0	1.0	1.0	0.0	SGMW-02B
SGMW-02C	0.0	0.4	27.0	1.1	0.0	8	540.0	22	0.0	1.0	1.0	0.0	SGMW-02C
SGMW-03A	0.0	25.1	22.4	0.0	0.0	502	448.0	0.0	0.0	1.0	0.0	0.0	SGMW-03A
SGMW-03B	0.9	0.7	40.0	0.0	18	14	800.0	0.0	0.0	2.0	0.0	0.0	SGMW-03B
SGMW-03C	0.2	0.6	39.7	0.0	4	12	794.0	0.0	0.0	2.0	0.0	0.0	SGMW-03C
SGMW-04A	8.4	0.7	43.7	1.0	168	14	874.0	20	0.0	0.0	3.0	0.0	SGMW-04A
SGMW-04B	17.0	0.7	38.5	3.0	340.0	14	760.0	60	0.0	0.0	1.0	0.0	SGMW-04B
SGMW-04C	12.0	0.7	31.5	0.0	240	14	630.0	0.0	0.0	0.0	1.0	0.0	SGMW-04C
SGMW-05A	10.5	0.6	32.6	0.0	210.0	12	652	0.0	0.0	1.0	0.0	0.0	SGMW-05A
SGMW-05B	17.0	0.7	29.4	1.2	340.0	13	588.0	24	0.0	2.0	1.0	0.0	SGMW-05B
SGMW-05C	13.5	0.7	22.4	0.0	270	13	444.0	0.0	0.0	2.0	1.0	0.0	SGMW-05C
SGMW-06A	11.5	0.8	30.7	0.0	230	16	614	0.0	0.0	1.0	1.0	0.0	SGMW-06A
SGMW-06B	14.3	0.6	29.9	0.0	286	12	598	0.0	0.0	1.0	1.0	0.0	SGMW-06B
SGMW-06C	12.9	0.0	26.4	0.0	258	0.0	528	0.0	0.0	0.0	1.0	0.0	SGMW-06C
SGMW-07A	0.0	0.0	0.1	0.1	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	SGMW-07A
SGMW-07B	0.0	0.0	0.1	0.1	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	SGMW-07B
SGMW-07C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-07C
SGMW-08A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	SGMW-08A
SGMW-08B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-08B
SGMW-08C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	SGMW-08C
SGMW-09A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-09A
SGMW-09B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	SGMW-09B
SGMW-09C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	SGMW-09C
SGMW-10A	0.4	0.0	8.7	0.0	8	0.0	174	0.0	0.0	0.0	2.0	0.0	SGMW-10A
SGMW-10B	0.0	0.0	10.5	0.0	0.0	0.0	210	0.0	0.0	0.0	1.0	0.0	SGMW-10B
SGMW-10C	0.0	0.0	9.0	0.0	0.0	0.0	180	0.0	0.0	0.0	8.0	0.0	SGMW-10C
SGMW-11A	0.0	0.0	8.5	0.0	0.0	0.0	170	0.0	0.0	0.0	2.0	0.0	SGMW-11A
SGMW-11B	0.0	0.0	8.7	0.0	0.0	0.0	174	0.0	0.0	0.0	22.0	0.0	SGMW-11B
SGMW-12A	0.0	0.0	8.1	27.5	0.0	0.0	162	550	0.0	0.0	2.0	39.0	SGMW-12A
SGMW-12B	0.0	0.0	6.1	27.5	0.0	0.0	172	550	0.0	0.0	2.0	0.0	SGMW-12B
SGMW-13A	0.0	0.3	6.0	0.0	0.0	0.0	120	0.0	0.0	0.0	1.0	0.0	SGMW-13A
SGMW-13B	0.0	0.0	4.0	0.0	0.0	0.0	80	0.0	0.0	0.0	1.0	0.0	SGMW-13A
SGMW-14A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-14A
SGMW-14B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-14B
SGMW-15A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-15A
SGMW-15B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-15B
SGMW-16A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-16A
SGMW-16B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-16B
SGMW-17A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-17A
SGMW-17B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-17B
SGMW-18A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-18A
SGMW-18B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	SGMW-18B
SGMW-19A	2.5	4.0	27.0	0.0	50	80	540	0.0	0.0	1.0	29.0	0.0	SGMW-19A
SGMW-19B	0.0	0.0	19.2	0.0	0.0	0.0	384	0.0	0.0	0.0	17.0	0.0	SGMW-19B
GSGM-1A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-1A
GSGM-1B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-1B
GSGM-1C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-1C
GSGM-2A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-2A
GSGM-2B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-2B
GSGM-2C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-2C
GSGM-3A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-3A
GSGM-3B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-3B
GSGM-4A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-4A
GSGM-4B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	GSGM-4B

Measurements in () are calculated, not measured.

2008 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 3/24/2008	Methane (% By Volume) 7/29/2008	Methane (% By Volume) 9/30/2008	Methane (% By Volume) 12/9/2008	LEL (% By Volume) 3/24/2008	LEL (% By Volume) 7/29/2008	LEL (% By Volume) 9/30/2008	LEL (% By Volume) 12/9/2008	Hydrogen Sulfide (ppm by volume) 3/24/2008	Hydrogen Sulfide (ppm by volume) 7/29/2008	Hydrogen Sulfide (ppm by volume) 9/30/2008	Hydrogen Sulfide (ppm by volume) 12/9/2008	Soil Gas Monitoring Well
SGMW-01A	10.8	3	8.8	11.2	220	96	176	224	3	2	2	0	SGMW-01A
SGMW-01B	9.9	2.9	6.5	11.7	198	58	130	234	0	0.0	0.0	4.0	SGMW-01B
SGMW-01C	9.4	5.7	6.2	9.8	190	112	124	196	0	0	0	4	SGMW-01C
SGMW-02A	34.2	39.1	42.5	37.3	680	788	850	746	11	16	0	0	SGMW-02A
SGMW-02B	3.1	47.2	45	44.3	62	944	900	886	1	12	20	19	SGMW-02B
SGMW-02C	3.2	49.9	52.5	53.3	64	998	1050	1066	1	1	1	3	SGMW-02C
SGMW-03A	13.2	49.1	44	30	264	960	880	600	1	11	6	1	SGMW-03A
SGMW-03B	55.5	53.6	57.8	60.6	1110	1072	1156	142	15	23	36	14	SGMW-03B
SGMW-03C	48.5	51.6	55.9	57.3	970	1032	1118	1146	1	13	26	63	SGMW-03C
SGMW-04A	14.5	43.8	50.6	44.5	290	882	1012	890	1	5	8	0	SGMW-04A
SGMW-04B	40.6	43.4	50.2	44.1	812	870	1004	882	5	16	20	6	SGMW-04B
SGMW-04C	32.7	40.1	45.8	36.1	654	756	916	722	2	0	1	3	SGMW-04C
SGMW-05A	30	36.5	43.7	38.8	600	728	874	776	4	12	5	4	SGMW-05A
SGMW-05B	30.7	35.8	39.7	36.1	614	708	794	722	3	2	6	3	SGMW-05B
SGMW-05C	24	24.6	31.8	28.3	480	502	636	566	3	0	3	2	SGMW-05C
SGMW-06A	18.9	25.3	39.9	40.4	378	510	798	808	0	0	7	0	SGMW-06A
SGMW-06B	30.9	36.4	39.9	40.2	618	724	798	804	1	2	5	7	SGMW-06B
SGMW-06C	28	33.7	37.7	37.3	560	670	754	746	3	0	1	3	SGMW-06C
SGMW-07A	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-07B
SGMW-07C	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-07C
SGMW-08A	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-08B
SGMW-08C	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-08C
SGMW-09A	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0.4	0	0	0	8	0	0	0	0	0	0	SGMW-09B
SGMW-09C	0	0.3	0	0	0	6	0	0	0	0	0	0	SGMW-09C
SGMW-10A	0	12.2	22.5	8.4	0	244	450	168	0	9	19	1	SGMW-10A
SGMW-10B	0	9.9	19.1	10.3	0	200	382	206	0	0	9	2	SGMW-10B
SGMW-10C	0	9.4	15.7	8.3	0	92	314	166	0	0	13	7	SGMW-10C
SGMW-11A	4	14.9	23	11.9	80	300	450	238	5	23	2	4	SGMW-11A
SGMW-11B	2.3	13.7	21.6	6.9	46	274	430	138	0	3	20	0	SGMW-11B
SGMW-12A	32.1	43.4	52.5	47.1	642	868	1050	942	39	65	92	3	SGMW-12A
SGMW-12B	30.6	32.9	43.7	41.3	612	658	874	826	0	1	10	2	SGMW-12B
SGMW-13A	0	0.5	0.6	0.2	0	10	13	4	0	2	0	0	SGMW-13A
SGMW-13B	0	31.9	42.8	36.7	0	648	856	734	0	2	29	4	SGMW-13A
SGMW-14A	0	0.7	2.1	0.5	0	14	42	10	0	0	0	0	SGMW-14A
SGMW-14B	0	0.3	3	0.5	0	6	61	11	0	0	0	0	SGMW-14B
SGMW-15A	0	0.2	2.2	0	0	4	45	0	0	0	0	0	SGMW-15A
SGMW-15B	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-15B
SGMW-16A	0	0.2	0	0	0	4	0	0	1	0	0	0	SGMW-16A
SGMW-16B	0	0.5	0	0	0	10	0	0	0	0	0	0	SGMW-16A
SGMW-17A	0	0	0	0	0	0	0	0	1	0	0	0	SGMW-17A
SGMW-17B	0	0.4	0	0	0	8	0	0	0	0	0	0	SGMW-17B
SGMW-18A	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-18A
SGMW-18B	0	0.2	0	0	0	4	0	0	0	0	0	0	SGMW-18B
SGMW-19A	14.5	7.5	32.4	0	290	154	648	312	11	3	30	1	SGMW-19A
SGMW-19B	11.5	8.2	28	0	230	164	560	0	8	2	0	0	SGMW-19B
GSGM-1A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1A
GSGM-1B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1B
GSGM-1C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-1C
GSGM-2A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2A
GSGM-2B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2B
GSGM-2C	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-2C
GSGM-3A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3A
GSGM-3B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-3B
GSGM-4A	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4A
GSGM-4B	0	0	0	0	0	0	0	0	0	0	0	0	GSGM-4B

Measurements in () are calculated, not measured.

2009 Current Landfill Soil Gas Monitoring Summary Table

2010 Current Landfill Soil Gas Monitoring Summary Table

2011 Current Landfill Soil Gas Monitoring Summary Table

2012 Current Landfill Soil Gas Monitoring Summary Table

2013 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 3/13/13	Methane (% By Volume) 6/4-5/2013	Methane (% By Volume) 9/17-18/13	Methane (% By Volume) 11/19-20/2013	Methane (% By Volume) 3/13/13	LEL (% By Volume) 6/4-5/2013	LEL (% By Volume) 9/17-18/13	LEL (% By Volume) 11/19-20/2013	LEL (% By Volume) 3/13/13	LEL (% By Volume) 6/4-5/2013	LEL (% By Volume) 9/17-18/13	LEL (% By Volume) 11/19-20/2013	Hydrogen Sulfide (ppm by volume) 3/13/13	Hydrogen Sulfide (ppm by volume) 6/4-5/2013	Hydrogen Sulfide (ppm by volume) 9/17-18/13	Hydrogen Sulfide (ppm by volume) 11/19-20/2013	Hydrogen Sulfide (ppm by volume) 3/13/13	Hydrogen Sulfide (ppm by volume) 6/4-5/2013	Hydrogen Sulfide (ppm by volume) 9/17-18/13	Hydrogen Sulfide (ppm by volume) 11/19-20/2013	Soil Gas Monitoring Well
SGMW-01A	22.7	18.0	13.2	8.5	7.7	>100	>100	>100	>100	>100	>100	>100	3.0	2.0	2.0	2.0	SGMW-01A				
SGMW-01B	22.0	13.0	3.6	7.7	5.6	>100	>100	>100	>100	>100	>100	>100	2.0	0.0	0.0	0.0	SGMW-01B				
SGMW-01C	19.9	18.1	9.4	5.6	41.9	>100	>100	>100	>100	>100	>100	>100	1.0	0.0	0.0	0.0	SGMW-01C				
SGMW-02A	59.1	55.2	59.8	41.9	49.5	>100	>100	>100	>100	>100	>100	>100	0.0	29	2.0	1.1	SGMW-02A				
SGMW-02B	23.5	54.2	53.8	0.1	50.9	>100	>100	>100	>100	>100	>100	>100	4.0	0.0	0.0	3.0	SGMW-02C				
SGMW-02C	55.6	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-02C				
SGMW-03A	32.3	53.7	28.3	30.8	34.2	>100	>100	>100	>100	>100	>100	>100	9.0	2.0	2.0	1.0	SGMW-03A				
SGMW-03B	60.8	43.2	0.0	0.1	0.1	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-03B				
SGMW-03C	57.4	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-03C				
SGMW-04A	50.6	45.7	39	39.9	32.8	>100	>100	>100	>100	>100	>100	>100	0.0	4.0	2.0	0.0	SGMW-04A				
SGMW-04B	49.7	33.5	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-04B				
SGMW-04C	46.8	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-04C				
SGMW-05A	43.3	33.6	7.1	0.6	0.6	>100	>100	>100	>100	>100	>100	>100	12	0.0	2.0	0.0	SGMW-05A				
SGMW-05B	41.4	34.3	28	20.8	20.8	>100	>100	>100	>100	>100	>100	>100	4.0	1.0	0.0	0.0	SGMW-05B				
SGMW-05C	35.0	22.4	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	2.0	0.0	0.0	SGMW-05C				
SGMW-06A	9.8	0.0	0.8	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	17	0.0	0.0	0.0	SGMW-06A				
SGMW-06B	38.7	0.2	34.7	0.1	0.1	>100	>100	>100	>100	>100	>100	>100	4.0	1.0	0.0	0.0	SGMW-06B				
SGMW-06C	38.0	27.8	31.3	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	3.0	0.0	0.0	SGMW-06C				
SGMW-07A	0.0	0.0	12.8	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	5.0	0.0	SGMW-07A				
SGMW-07B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-07B				
SGMW-07C	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-07C				
SGMW-08A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-08A				
SGMW-08B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-08B				
SGMW-08C	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-08C				
SGMW-09A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-09A				
SGMW-09B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-09B				
SGMW-09C	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-09C				
SGMW-10A	16.2	7.8	12.4	2.0	2.0	>100	>100	>100	>100	>100	>100	>100	0.0	3.0	3.0	9.0	SGMW-10A				
SGMW-10B	16.0	13.7	16.2	0.1	0.1	>100	>100	>100	>100	>100	>100	>100	56	5.0	4.0	4.0	SGMW-10B				
SGMW-10C	13.6	11.7	14.1	0.1	0.1	>100	>100	>100	>100	>100	>100	>100	2.0	3.0	0.0	1.0	SGMW-10C				
SGMW-11A	12.7	13.8	19.2	8.2	8.2	>100	>100	>100	>100	>100	>100	>100	3.0	2.0	3.0	1.0	SGMW-11A				
SGMW-11B	11.4	10.8	15.3	10.7	10.7	>100	>100	>100	>100	>100	>100	>100	8.0	14	12.0	17.0	SGMW-11B				
SGMW-12A	53.5	46.1	25.9	25.9	25.9	>100	>100	>100	>100	>100	>100	>100	5.0	0.0	0.0	0.0	SGMW-12A				
SGMW-12B	42.2	36.7	46.0	2.0	2.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-12B				
SGMW-13A	0.2	19.5	42.2	0.1	0.1	>100	>100	>100	>100	>100	>100	>100	2.0	5.0	6.0	6.0	SGMW-13A				
SGMW-13B	43.3	0.0	22.0	0.1	0.1	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-13B				
SGMW-14A	8.9	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-14A				
SGMW-14B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-14B				
SGMW-15A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-15A				
SGMW-15B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-15B				
SGMW-16A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-16A				
SGMW-16B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-16B				
SGMW-17A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-17A				
SGMW-17B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-17B				
SGMW-18A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-18A				
SGMW-18B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-18B				
SGMW-19A	27.8	14.6	1.4	0	0	>100	>100	>100	>100	>100	>100	>100	28	6.0	5.0	5.0	SGMW-19A				
SGMW-19B	28.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-19B				
SGSM-1A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-1A				
SGSM-1B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-1B				
SGSM-1C	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-1C				
SGSM-2A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-2A				
SGSM-2B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-2B				
SGSM-2C	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-2C				
SGSM-3A	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-3A				
SGSM-3B	0.0	0.0	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGSM-3				

2014 Current Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well 2/25-26/14	Methane (% By Volume) 6/10/14	Methane (% By Volume) 9/3/14	Methane (% By Volume) 12/16/17/14	LEL 2/25-26/14		LEL 6/10/14		LEL 9/3/14		LEL 12/16-17/14		Hydrogen Sulfide (ppm by volume) 9/3/14	Hydrogen Sulfide (ppm by volume) 6/10/14	Hydrogen Sulfide (ppm by volume) 2/25-26/14	Hydrogen Sulfide (ppm by volume) 12/16-17/14	Soil Gas Monitoring Well
				% By Volume	(% By Volume)	% By Volume	(% By Volume)	% By Volume	(% By Volume)	% By Volume	(% By Volume)					
SGMW-01A	12.8	16.2	7.9	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-01A
SGMW-01B	12.1	13.2	0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-01B
SGMW-01C	10.4	8.9	9.5	>100	>100	>100	>100	>100	>100	>100	>100	1.0	0.0	0.0	0.0	SGMW-01C
SGMW-02A	45.7	49.7	44.9	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-02A
SGMW-02B	11.3	45.5	47.3	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-02B
SGMW-02C	26.2	47.0	30.8	>100	>100	>100	>100	>100	>100	>100	>100	4.0	3.0	2.0	1.0	SGMW-02C
SGMW-03A	15.6	31.8	26.1	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-03A
SGMW-03B	44.5	46.4	54.6	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-03B
SGMW-03C	42.1	49.6	51.7	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-03C
SGMW-04A	37.1	48.8	40.8	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-04A
SGMW-04B	34.4	44.6	41.2	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-04B
SGMW-04C	25.3	39.5	33.4	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-04C
SGMW-05A	27.0	35.3	1.2	>100	>100	>100	>100	>100	>100	>100	>100	25	>100	0.0	0.0	SGMW-05A
SGMW-05B	25.9	26.5	0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-05B
SGMW-05C	19.4	22.8	0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-05C
SGMW-06A	0.4	0.1	0.2	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-06A
SGMW-06B	30.1	33.3	0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-06B
SGMW-06C	29.9	31.8	0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-06C
SGMW-07A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-07A
SGMW-07B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-07B
SGMW-07C	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-07C
SGMW-08A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-08A
SGMW-08B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-08B
SGMW-08C	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-08C
SGMW-09A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-09A
SGMW-09C	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-09C
SGMW-10A	6.8	18.5	9.2	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-10A
SGMW-10B	7.2	16.7	15.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-10B
SGMW-10C	6.1	13.8	19.4	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-10C
SGMW-11A	3.1	16.1	16.5	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-11A
SGMW-11B	1.4	15.8	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-11B
SGMW-12A	34.2	41.5	36.8	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-12A
SGMW-12B	27.5	28.5	33.1	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-12B
SGMW-13A	0.2	0.6	17.4	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-13A
SGMW-13B	20.2	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-13B
SGMW-14A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-14A
SGMW-14B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-14B
SGMW-15A	0.1	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-15A
SGMW-15B	6.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-15B
SGMW-16A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-16A
SGMW-16B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-16B
SGMW-17A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-17A
SGMW-17B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-17B
SGMW-18A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-18A
SGMW-18B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-18B
SGMW-19A	0.3	22.6	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-19A
SGMW-19B	0.4	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	SGMW-19B
GSGM-1A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-1A
GSGM-1B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-1B
GSGM-1C	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-1C
GSGM-2A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-2A
GSGM-2B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-2B
GSGM-2C	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-2C
GSGM-3A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-3A
GSGM-3B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-3B
GSGM-4A	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-4A
GSGM-4B	0.0	0.0	0.0	>100	>100	>100	>100	>100	>100	>100	>100	0.0	0.0	0.0	0.0	GSGM-4B

2015 Current Landfill Soil Gas Monitoring Summary Table

2016 Current Landfill Soil Gas Monitoring Summary Table

Table 8

2017 Current Landfill Soil Gas Monitoring Summary Table

1996/97 FORMER LANDFILL AREA SOIL GAS MONITORING SUMMARY TABLE

1998 Environmental Monitoring Report

Current and Former Landfills Brookhaven National Laboratory

Soil Gas Monitoring Well	Methane (% By Volume)				Hydrogen Sulfide (ppm by volume)			
	Aug-96	Mar-97	Aug-97	Nov-97	Aug-96	Mar-97	Aug-97	Nov-97
SGMW-01A	0	0	0.3	0	0	6	-5	0
SGMW-01B	0	0	0.3	0	0	4	-5	0
SGMW-02A	0	0	0	0	0	6	-2	0
SGMW-02B	0	0	0	0	0	3	-2	0
SGMW-03A	0	0	0	0	0	1	-4	0
SGMW-03B	0	0	0	0	0	5	-4	0
SGMW-04A	0	0	0.2	0.1	0	7	-5	8
SGMW-04B	0	0	0.2	0.1	0	7	-5	9
SGMW-05A	0	0	0	0	0	7	-2	12
SGMW-05B	0	0	0	0	0	4	-2	0
SGMW-06A	0	0	0	0	0	7	-4	0
SGMW-06B	0	0	0.1	0	0	4	-4	0
SGMW-07A	0	0	0	0	0	7	0	0
SGMW-07B	0	0	0	0	0	7	0	0
SGMW-08A	0	0	0.1	0	0	6	-5	0
SGMW-08B	0	0	0.1	0	0	6	-1	0
SGMW-09A	0	0	0	0	0	5	-2	1
SGMW-09B	0	0	0	0	0	4	-2	0
SGMW-10A	0	0	0	0	0	7	-1	1
SGMW-10B	0	0	0	0	0	5	-2	0
SGMW-11A	0	0	0.3	0	0	9	-5	0
SGMW-11B	0	0	0	0	0	4	-1	2
SGMW-12A	0	0	0.3	0	0	9	-5	0
SGMW-12B	0	0	0.3	0	0	5	-5	0

0 No measurement taken.

Negative numbers reported are due to equipment problems.

Brookhaven National Laboratory
1998 Landfills Environmental Monitoring Report
1998 Former Landfill Area Soil Gas Monitoring Summary Table

Gas Monitoring Well	Methane (% By Volume)		Hydrogen sulfide (ppm By Volume)		Hydrogen sulfide (ppm By Volume)		Hydrogen sulfide (ppm By Volume)		Soil Gas Monitoring Well
	February-98	May-98	August-98	December-98	February-98	May-98	August-98	December-98	
-01A	0	0	0	0	1	0	1	0	SGMW-01A
-01B	0.1	0	0	0	1	0	0	0	SGMW-01B
-02A	0	0	0	0	6	0	0	0	SGMW-02A
-02B	0.1	0	0	0	6	1	1	0	SGMW-02B
-03A	0	0	0	0	0	0	0	0	SGMW-03A
-03B	0	0	0	0.1	0	2	2	0	SGMW-03B
-04A	0	0.1	0	0	0	0	0	0	SGMW-04A
-04B	0	0	0	0	0	0	0	0	SGMW-04B
-05A	0	0	0	0	0	0	0	0	SGMW-05A
-05B	0	0	0	0	0	0	0	0	SGMW-05B
-06A	0	0	0	0	0	0	0	0	SGMW-06A
-06B	0	0	0	0	0	0	0	1	SGMW-06B
-07A	0	0	0	0	0	0	0	0	SGMW-07A
-07B	0	0	0	0	0	0	0	0	SGMW-07B
-08A	0	0	0	0	0	0	0	0	SGMW-08A
-08B	0	0	0	0	0	0	0	0	SGMW-08B
-09A	0	0	0	0	0	0	0	0	SGMW-09A
-09B	0	0	0	0	0	0	0	0	SGMW-09B
-10A	0	0	0	0	0	0	0	0	SGMW-10A
-10B	0	0	0	0	0	0	0	0	SGMW-10B
-11A	0	0	0	0	0	0	0	0	SGMW-11A
-11B	0	0	0	0	0	0	0	0	SGMW-11B
-12A	0	0	0	0	0	0	0	0	SGMW-12A
-12B	0	0	0	0	0	0	0	0	SGMW-12B

SGMW7 was not accessible

Brookhaven National Laboratory
 1998 Landfill Environmental Monitoring Report
 1998 Former Landfill Soil Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (N By Volume) June-98	Methane (N By Volume) October-98	Methane (N By Volume) December-98	LEL (% By Volume) June-98	LEL (% By Volume) October-98	LEL (% By Volume) December-98	Hydrogen sulfide (ppm By Volume) June-98	Hydrogen sulfide (ppm By Volume) October-98	Hydrogen sulfide (ppm By Volume) December-98	Soil Gas Monitoring Well
SGMW-01A	0	0	0	0	0	0	0	0	0	SGMW-01A
SGMW-01B	0	0	0	0	0	0	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	0	0	0	0	0	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	0	SGMW-03A
SGMW-03B	0	0	0	0	0	0	0	0	0	SGMW-03B
SGMW-04A	0	0	0	0	0	0	0	0	0	SGMW-04A
SGMW-04B	0	0	0	0	0	0	0	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	0	0	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0	0	0	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-07A	0	0	0	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0	0	0	0	0	0	0	0	0	SGMW-07B
SGMW-08A	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-09A	0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	0	0	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	0	0	SGMW-11A
SGMW-11B	0	0	0	0	0	0	0	0	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	0	0	0	SGMW-12A
SGMW-12B	0	0	0	0	0	0	0	0	0	SGMW-12B

* = No measurement was recorded.

Brookhaven National Laboratory
 2000 Landfill Environmental Monitoring Report
 2000 Former Landfill Soil Gas Monitoring Summary Table

Well	Methane (% By Volume) February-00	Methane (% By Volume) June-00	Methane (% By Volume) September-00	Methane (% By Volume) December-00	LEL (% By Volume) February-00	LEL (% By Volume) June-00	LEL (% By Volume) September-00	LEL (% By Volume) December-00	Hydrogen Sulfide (ppm by volume) February-00	Hydrogen Sulfide (ppm by volume) June-00	Hydrogen Sulfide (ppm by volume) September-00	Hydrogen Sulfide (ppm by volume) December-00	Soil Gas Monitoring Well
SGMW-01A	0	0	0	0	0	0	0	0	2	5	1	1	SGMW-01A
SGMW-01B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-01B
SGMW-02A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-03A
SGMW-03B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-03B
SGMW-04A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-04A
SGMW-04B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-04B
SGMW-05A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-05B
SGMW-06A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-06B
SGMW-07A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-07A
SGMW-07B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-07B
SGMW-08A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-08B
SGMW-09A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-09B
SGMW-10A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-10A
SGMW-10B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-11A
SGMW-11B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-11B
SGMW-12A	0	0	0	0	0	0	0	0	0	0	1	1	SGMW-12A
SGMW-12B	0	0	0	0	0	0	0	0	0	0	2	2	SGMW-12B

Measurement was collected due to other work in the area.

Brookhaven National Laboratory
 2001 Landfill Environmental Monitoring Report
 2001 Former Landfill Soil Gas Monitoring Summary Table

Gas Well	Methane (% By Volume) March-01	Methane (% By Volume) June-01	Methane (% By Volume) September-01	LEL (% By Volume) March-01	LEL (% By Volume) June-01	LEL (% By Volume) September-01	Hydrogen Sulfide (ppm by volume) March-01	Hydrogen Sulfide (ppm by volume) June-01	Hydrogen Sulfide (ppm by volume) September-01
V-01A	0	0	0	0	0	0	3	N/A	1
V-01B	0	0	0	0	0	0	4	N/A	1
V-02A	0	0	0	0	0	0	5	N/A	2
V-02B	0	0	0.1	0	0	0	4	N/A	2
V-03A	0	0	0.1	0	0	0.2	4	N/A	0
V-03B	0	0	0	0	0	0	5	N/A	0
V-04A	0	0	0	0	0	0	5	N/A	0
V-04B	0	0	0	0	0	0	5	N/A	0
V-05A	0	0	0	0	0	0.2	5	N/A	0
V-05B	0	0	0	0	0	0	5	N/A	0
V-06A	0	0	0	0	0	0	5	N/A	0
V-06B	0	0	0	0	0	0	6	N/A	0
V-07A	0	0	0	0	0	0	7	N/A	0
V-07B	0	0	0	0	0	0	6	N/A	0
V-08A	0	0	0	0	0	0	9	N/A	0
V-08B	0	0	0	0	0	0	6	N/A	0
V-09A	0	0	0	0	0	0	8	N/A	0
V-09B	0	0	0	0	0	0	7	N/A	0
V-10A	0	0	0	0	0	0	4	N/A	0
V-10B	0	0	0	0	0	0	8	N/A	0
V-11A	0	0	0	0	0	0	7	N/A	0
V-11B	0	0	0	0	0	0	6	N/A	0
V-12A	0	0	0	0	0	0	8	N/A	0
V-2B	0	0	0	0	0	0	7	N/A	0

Measurement was collected due to other work in the area.

2003 Former Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume) March-03	Methane (% By Volume) July-03	Methane (% By Volume) October-03	Methane (% By Volume) December-03	LEL (% By Volume) March-03	LEL (% By Volume) July-03	LEL (% By Volume) October-03	LEL (% By Volume) December-03	Hydrogen Sulfide (ppm by volume) March-03	Hydrogen Sulfide (ppm by volume) July-03	Hydrogen Sulfide (ppm by volume) October-03	Hydrogen Sulfide (ppm by volume) December-03	Soil Gas Monitoring Well
SGMW-01A	0	0	0.1	0	0	0	2	0	0	-	0	-	SGMW-01A
SGMW-01B	0.1	0	0	0	2	0	0	0	1	-	0	-	SGMW-01B
SGMW-02A	0.1	0	0.1	0	2	0	2	0	4	-	0	-	SGMW-02A
SGMW-02B	0	0	0.1	0	0	0	2	0	1	-	0	-	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	1	-	0	-	SGMW-03A
SGMW-03B	0.1	0	0.1	0	2	0	2	0	1	-	0	-	SGMW-03B
SGMW-04A	0.2	0	0.1	0	4	0	2	0	2	-	0	-	SGMW-04A
SGMW-04B	0	0	0.1	0	0	0	2	0	3	-	0	-	SGMW-04B
SGMW-05A	0.1	0	0	0	2	0	0	0	1	-	0	-	SGMW-05A
SGMW-05B	0	0	0.1	0	0	0	2	0	1	-	0	-	SGMW-05B
SGMW-06A	0.1	0	0.2	0	2	0	4	0	2	-	0	-	SGMW-06A
SGMW-06B	0.1	0	0.2	0	0	0	4	0	2	-	0	-	SGMW-06B
SGMW-07A	0.1	0	0.1	0	2	0	2	0	4	-	0	-	SGMW-07A
SGMW-07B	0.2	0	0.1	0	4	0	2	0	5	-	0	-	SGMW-07B
SGMW-08A	0.1	0	0.1	0	2	0	2	0	1	-	0	-	SGMW-08A
SGMW-08B	0.2	0	0.1	0	4	0	2	0	2	-	0	-	SGMW-08B
SGMW-09A	0.1	0	0	0	2	0	0	0	3	-	0	-	SGMW-09A
SGMW-09B	0.1	0	0	0	2	0	0	0	1	-	0	-	SGMW-09B
SGMW-10A	0.2	0	0.1	0	4	0	2	0	2	-	0	-	SGMW-10A
SGMW-10B	0.2	0	0	0	4	0	0	0	4	-	0	-	SGMW-10B
SGMW-11A	0.1	0	0.1	0	2	0	2	0	0	-	0	-	SGMW-11A
SGMW-11B	0.1	0	0.1	0	2	0	2	0	3	-	0	-	SGMW-11B
SGMW-12A	0.1	0	0.1	0	2	0	2	0	4	-	0	-	SGMW-12A
SGMW-12B	0.1	0	0.1	0	2	0	2	0	3	-	0	-	SGMW-12B

July measurements taken with a Landtec GEM 500

- H2S pod not operational.

2004 Former Landfill Soil Gas Monitoring Summary

Soil Gas Monitoring Well	Methane (% By Volume) 3/11/04	Methane (% By Volume) 6/25/04	Methane (% By Volume) 10/20/04	Methane (% By Volume) 11/30/04	LEL (% By Volume) 3/11/04	LEL (% By Volume) 6/25/04	LEL (% By Volume) 10/20/04	LEL (% By Volume) 11/30/04	Hydrogen Sulfide (ppm by volume) 3/11/04	Hydrogen Sulfide (ppm by volume) 6/25/04	Hydrogen Sulfide (ppm by volume) 10/20/04	Hydrogen Sulfide (ppm by volume) 11/30/04	Soil Gas Monitoring Well
SGMW-01A	0.1	0	0	0.1	2	0	0	2	150	0	0	0	SGMW-01A
SGMW-01B	0	0	0	0	0	0	0	0	63	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-02A
SGMW-02B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	0	0	109	0	0	0	SGMW-03A
SGMW-03B	0	0.1	0	0	0	2	0	0	0	2	0	0	SGMW-03B
SGMW-04A	0.1	0.1	0	0	2	2	0	0	0	2	0	0	SGMW-04A
SGMW-04B	0	0.1	0	0	0	2	0	0	0	2	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-06B
SGMW-07A	0	0	0	NR	0	0	0	NR	0	0	0	0	NR
SGMW-07B	0	0	0	NR	0	0	0	NR	0	0	0	0	SGMW-07B
SGMW-08A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-08B
SGMW-09A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11A
SGMW-11B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-12A
SGMW-12B	0	0	0	0	0	0	0	0	0	0	0	0	SGMW-12B

NR = Not read, access to well was not possible due to construction.

H2S pod suspected of not operating correctly in March.

2005 Former Landfill Soil Gas Monitoring Summary Table

2006 Former Landfill Soil Gas Monitoring Summary Table

2007 Former Landfill Soil-Gas Monitoring Summary Table

2008 Former Landfill Soil-Gas Monitoring Summary Table

2009 Former Landfill Soil-Gas Monitoring Summary Table

2010 Former Landfill Soil-Gas Monitoring Summary Table

2011 Former Landfill Soil-Gas Monitoring Summary Table

2012 Former Landfill Soil-Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 6/19/2012	Methane (% By Volume) 12/5/2012	LEL (% By Volume) 6/19/2012	LEL (% By Volume) 12/5/2012	Hydrogen Sulfide (ppm by volume) 6/19/2012	Hydrogen Sulfide (ppm by volume) 12/5/2012	Soil Gas Monitoring Well
SGMW-01A	0	0	0	0	0	0	SGMW-01A
SGMW-01B	0	0	0	0	0	0	SGMW-01B
SGMW-02A	0	0	0	0	0	0	SGMW-02A
SGMW-02B	0	0	0	0	0	0	SGMW-02B
SGMW-03A	0	0	0	0	0	0	SGMW-03A
SGMW-03B	0	0	0	0	0	0	SGMW-03B
SGMW-04A	0	0	0	0	0	0	SGMW-04A
SGMW-04B	0	0	0	0	0	0	SGMW-04B
SGMW-05A	0	0	0	0	0	0	SGMW-05A
SGMW-05B	0	0	0	0	0	0	SGMW-05B
SGMW-06A	0	0	0	0	0	0	SGMW-06A
SGMW-06B	0	0	0	0	0	0	SGMW-06B
SGMW-07A	0	0	0	0	0	0	SGMW-07A
SGMW-07B	0	0	0	0	0	0	SGMW-07B
SGMW-08A	0	0	0	0	0	0	SGMW-08A
SGMW-08B	0	0	0	0	0	0	SGMW-08B
SGMW-09A	0	0	0	0	0	0	SGMW-09A
SGMW-09B	0	0	0	0	0	0	SGMW-09B
SGMW-10A	0	0	0	0	0	0	SGMW-10A
SGMW-10B	0	0	0	0	0	0	SGMW-10B
SGMW-11A	0	0	0	0	0	0	SGMW-11A
SGMW-11B	0	0	0	0	0	0	SGMW-11B
SGMW-12A	0	0	0	0	0	0	SGMW-12A
SGMW-12B	0	0	0	0	0	0	SGMW-12B

2013 Former Landfill Soil-Gas Monitoring Summary Table

2014 Former Landfill Soil-Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 6/10/2014	LEL (% By Volume) 6/10/2014	Hydrogen Sulfide (ppm by volume) 6/10/2014	Soil Gas Monitoring Well
SGMW-01A	0	0	0	SGMW-01A
SGMW-01B	0	0	0	SGMW-01B
SGMW-02A	0	0	0	SGMW-02A
SGMW-02B	0	0	0	SGMW-02B
SGMW-03A	0	0	0	SGMW-03A
SGMW-03B	0	0	0	SGMW-03B
SGMW-04A	0	0	0	SGMW-04A
SGMW-04B	0	0	0	SGMW-04B
SGMW-05A	0	0	0	SGMW-05A
SGMW-05B	0	0	0	SGMW-05B
SGMW-06A	0	0	0	SGMW-06A
SGMW-06B	0	0	0	SGMW-06B
SGMW-07A	0	0	0	SGMW-07A
SGMW-07B	0	0	0	SGMW-07B
SGMW-08A	0	0	0	SGMW-08A
SGMW-08B	0	0	0	SGMW-08B
SGMW-09A	0	0	0	SGMW-09A
SGMW-09B	0	0	0	SGMW-09B
SGMW-10A	0	0	0	SGMW-10A
SGMW-10B	0	0	0	SGMW-10B
SGMW-11A	0	0	0	SGMW-11A
SGMW-11B	0	0	0	SGMW-11B
SGMW-12A	0	0	0	SGMW-12A
SGMW-12B	0	0	0	SGMW-12B

2015 Former Landfill Soil-Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 8/20/2015	LEL (% By Volume) 8/20/2015	Hydrogen Sulfide (ppm by volume) 8/20/2015	Soil Gas Monitoring Well
SGM-01A	0	0	0	SGM-01A
SGM-01B	0	0	0	SGM-01B
SGM-02A	0	0	0	SGM-02A
SGM-02B	0	0	0	SGM-02B
SGM-03A	0	0	0	SGM-03A
SGM-03B	0	0	0	SGM-03B
SGM-04A	0	0	0	SGM-04A
SGM-04B	0	0	0	SGM-04B
SGM-05A	0	0	0	SGM-05A
SGM-05B	0	0	0	SGM-05B
SGM-06A	0	0	0	SGM-06A
SGM-06B	0	0	0	SGM-06B
SGM-07A	0	0	0	SGM-07A
SGM-07B	0	0	0	SGM-07B
SGM-08A	0	0	0	SGM-08A
SGM-08B	0	0	0	SGM-08B
SGM-09A	0	0	0	SGM-09A
SGM-09B	0	0	0	SGM-09B
SGM-10A	0	0	0	SGM-10A
SGM-10B	0	0	0	SGM-10B
SGM-11A	0	0	0	SGM-11A
SGM-11B	0	0	0	SGM-11B
SGM-12A	0	0	0	SGM-12A
SGM-12B	0	0	0	SGM-12B

2016 Former Landfill Soil-Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume)	LEL (% By Volume)	Hydrogen Sulfide (ppm by volume)	Soil Gas Monitoring Well
	8/17/2016	8/17/2016	8/17/2016	
SGM-01A	0	0	0	SGM-01A
SGM-01B	0	0	0	SGM-01B
SGM-02A	0	0	0	SGM-02A
SGM-02B	0	0	0	SGM-02B
SGM-03A	0	0	0	SGM-03A
SGM-03B	0	0	0	SGM-03B
SGM-04A	0	0	0	SGM-04A
SGM-04B	0	0	0	SGM-04B
SGM-05A	0	0	0	SGM-05A
SGM-05B	0	0	0	SGM-05B
SGM-06A	0	0	0	SGM-06A
SGM-06B	0	0	0	SGM-06B
SGM-07A	0	0	0	SGM-07A
SGM-07B	0	0	0	SGM-07B
SGM-08A	0	0	0	SGM-08A
SGM-08B	0	0	0	SGM-08B
SGM-09A	0	0	0	SGM-09A
SGM-09B	0	0	0	SGM-09B
SGM-10A	0	0	0	SGM-10A
SGM-10B	0	0	0	SGM-10B
SGM-11A	0	0	0	SGM-11A
SGM-11B	0	0	0	SGM-11B
SGM-12A	0	0	0	SGM-12A
SGM-12B	0	0	0	SGM-12B

Table 9

2017 Former Landfill Soil-Gas Monitoring Summary Table

Soil Gas Monitoring Well	Methane (% By Volume) 8/17/2017	LEL (% By Volume) 8/17/2017	Hydrogen Sulfide (ppm by volume) 8/17/2017	Soil Gas Monitoring Well
SGM-01A	0	0	0	SGM-01A
SGM-01B	0	0	0	SGM-01B
SGM-02A	0	0	0	SGM-02A
SGM-02B	0	0	0	SGM-02B
SGM-03A	0	0	0	SGM-03A
SGM-03B	0	0	0	SGM-03B
SGM-04A	0	0	0	SGM-04A
SGM-04B	0	0	0	SGM-04B
SGM-05A	0	0	0	SGM-05A
SGM-05B	0	0	0	SGM-05B
SGM-06A	0	0	0	SGM-06A
SGM-06B	0	0	0	SGM-06B
SGM-07A	0	0	0	SGM-07A
SGM-07B	0	0	0	SGM-07B
SGM-08A	0	0	0	SGM-08A
SGM-08B	0	0	0	SGM-08B
SGM-09A	0	0	0	SGM-09A
SGM-09B	0	0	0	SGM-09B
SGM-10A	0	0	0	SGM-10A
SGM-10B	0	0	0	SGM-10B
SGM-11A	0	0	0	SGM-11A
SGM-11B	0	0	0	SGM-11B
SGM-12A	0	0	0	SGM-12A
SGM-12B	0	0	0	SGM-12B